The Economic and Social Significance of the Handicraft Industry in Botswana

Volume I

by

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To my three patient and supportive companions
Jonathan, Mazoe and Vumba,
and to the crafts women and men of Botswana

ABSTRACT

This thesis aims to determine the economic, financial, social, and cultural significance of the handicraft industry of Botswana to selected individuals and their households and to the nation as a whole. Because the importance of the handicraft sector to development in Africa is generally unappreciated, the main aim of the study is to establish whether handicraft production in Botswana is as important as other non-farm, small-scale industries.

Using disproportionate stratification and clustering, a nationwide quantitative survey of individual craft producers, production enterprises and marketing outlets was conducted. Data on non-craft industries were obtained from secondary sources. To compare different craft categories and to determine the value of the craft and non-craft sectors, cost-benefit models were developed for ten craft categories (basketry, beadwork, skinwork, leatherwork, carving, weaving, textiles, pottery, jewellery and miscellaneous crafts) and for ten non-craft small-scale industries (beer-brewing, grass/reed collection, hut building, veld products collection, hunting, sewing, bakery, blockmaking, metalwork and milling).

This study shows that the handicraft industry has an overall positive impact on individuals working in the sector, their families and communities, particularly rural dwellers, those with little or no formal education and other marginalised people. Benefits for individual producers and enterprises in rural areas are greater than in urban areas. Producers having access to consistent purchasing by formal craft organisations or by tourists benefit the most.

Social and cultural benefits derived from craft activities are greater than from non-craft activities, while producers' incomes are comparable. Nationally, both sectors provide financial and economic net benefits, but the non-craft sector provides more overall income due to its larger size. The craft sector shows higher economic efficiency than the non-craft sector, although the latter has higher average profitability.

This research in Botswana substantiates research in other developing countries about the significance of off-farm incomes and income diversification on rural and urban dwellers' livelihoods. These findings justify government and non-government support to increase the handicraft sector's positive impact on poverty reduction, employment creation, social welfare, culture, and the economies of Botswana and other African countries.

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PREFACE

While the study of the handicraft sector will be shown to be important for a variety of reasons, this specific investigation was initiated for very personal reasons. Before this study began, I had been working in the handicraft industry in southern Africa for more than seven years. A variety of impressions had been formed through this experience, and I came to believe that the handicraft industry was financially and socially important to individual producers and their families and to the respective nations.

I had the impression that often, handicraft production was the crucial factor in the daily existence of an individual and his/her household. If the opportunity did not exist to earn a living from craft production, certain families would suffer greatly and often be dependent on government to survive. In rural areas, craft production provided a means to be self-employed, to be self-sufficient, and seemed to offer a measure of respect in otherwise bleak conditions. Craft production appeared to slow down the tendency of urban migration because a non-farm income earning opportunity was available in the rural area. In urban and peri-urban areas, craft production clearly offered a chance to earn a living with a specific specialised skill, allowing producers to be employed without having to compete with the unskilled or semi-skilled majority. In places where factory 'sweat-shops' had become the style of development, craft production remained as an opportunity for individual and national expression of creativity and culture.

Unfortunately those impressions of the craft industry's significance were quite subjective, because they had been formed mostly from casual conversations with producers over a seven-year period. No detailed data on household and national incomes from this sector were available for southern Africa. In the general field of development, the concept of handicrafts as a viable development activity has gone in and out of vogue at least twice during the past two decades. At times, individual nations and their relevant government ministries and funding bodies supported craft development while at other times blocking projects and proposals was the norm.

Without detailed information on the handicraft sector there were no possibilities to evaluate past and existing projects to determine their impact. Without 'hard' data, planning future policies, project activities, objectives of production and marketing organisations is impossible.

Three years into the study, the need for hard economic data continued to be very much apparent. In late 1992 a colleague working with craft projects in southern Africa wrote the following to me:

> "Since I have got out and met and interviewed craftspeople...the focus of the exhibition has shifted from the purely aesthetic or creative to the role of crafts in development. More and more it has become obvious, particularly regarding the women, that their craft often means basic survival. I also like to think of the promotion of craft as development with 'dignity' because you are focussing on people's strengths as opposed to their weaknesses. I am writing up a small publication which will accompany the exhibition and I would like to focus on this aspect of craft in... and in developing countries in general... Could you send me details of publications... that might be relevant?"

Her words echoed my thoughts exactly. Unfortunately, I could provide only a very short list of publications that would contain information to support the importance of crafts as a development activity because very little had been researched and documented. A few books covered Asian countries. For southern Africa, no major publications had been written and only a handful of reports could be found that discussed specific projects rather than the sector as a whole. Superficial, and often, erroneous newspaper or magazine articles were written depicting a one-sided or even contradictory impression of the craft industry.

In a more recent letter, the same craft development colleague said:

> "Everyone has said this is a great craft development project etc., etc., but when it comes to funding craft and culture, I still believe, it is low priority."

To establish the relevance of handicraft projects to basic livelihoods and the need for funding and support, the necessity of thorough research and documentation to provide sound information is obvious. If the development and promotion of the craft industry can be separated from a superficial, romantic and 'arty' viewpoint, there is then a stronger possibility that it will be taken seriously and supported accordingly.

This study and resulting thesis attempt to provide scientific evidence establishing the economic and social significance of the handicraft industry in Botswana. If the handicraft sector proves to be insignificant and unimportant, relevant recommendations for development work must be made in light of this conclusion. If handicraft production is shown to be positive and important, documentation can be submitted to relevant government and non-government organisations (NGOs) to justify and encourage support – both moral and financial – for handicraft development.

1. INTRODUCTION

1.1 HANDICRAFTS IN SOUTHERN AFRICA

A variety of handmade objects has been produced by the various tribal groups throughout southern Africa for different purposes, such as baskets for winnowing, storage and fishing, leather goods for clothing, and wooden objects as tools and containers (Larson 1975; Shaw and van Warmelo 1981, 1988; Silberbauer 1981; Shaw 1993; Setlhabi 1994). During the last three decades, most of the countries in southern Africa have encouraged the commercial production and marketing of these items along with introduced contemporary craft products. A variety of handicraft development and marketing programmes can be found in Botswana, Lesotho, South Africa, Swaziland and Zimbabwe (Loughran and Argo 1986; Cuypers 1987; Gantsi Craft 1987; Jones 1987; Hasberg 1988; Terry 1988b; MCI 1989; Maseko 1990; White 1991; Gjern 1994; Kuru 1997a). During the 1960s and early 1970s, craft producers benefited from Mozambique's significant tourism industry and a revival is imminent (Lee 1991). The production of 'ethnic' crafts on a commercial basis has been encouraged and assisted in post-independent Namibia (le Roux 1993). Most of these programmes are based on the premise that craft production can be profitable, make use of valuable natural resources, and provide employment and income to individual producers and their families. Many programmes endure, some fail without a clear understanding of the reasons why, and new ones start every year.

1.2 THE IMPORTANCE OF STUDYING THE HANDICRAFT SECTOR

In the midst of these ongoing activities to develop and promote handicrafts, the utility of craft development programmes as income-generating strategies is hotly debated among development workers, government officers and funding organisations (Minkes 1952/53; Dhamija 1981; Carr 1984; Pye 1988; Melgin 1990). Much of this debate is conducted in a vacuum that is often filled only with emotional impressions, preconceptions and generalisations, because empirical data are not available (Simon 1981:297; Allal and Chuta 1982:ii; Cunningham 1987; Kathuria *et al* 1988:v; Boon 1989:75; Vencatachellum 1990:152; Standa-Gunda and Bond 1996:2; Shepherd 1998:100). Pye, who directed a survey on crafts in Asia, feels that some craft programmes have failed because "the

dynamics of the industry have not been captured" (Peterson 1984:6). Without this understanding, substantial debate on specific issues about policy formulation is impossible and many questions are left unanswered (Pye 1988). As a result, governments and organisations concerned with crafts find it difficult to plan and implement measures for improving the sector (Vencatachellum 1990:152; Standa-Gunda and Bond 1996:2).

In southern Africa, very little information is actually available on the crafts or craft producers apart from the occasional project report or marketing brochure. Not much is known about the livelihoods of the people who make crafts (Peterson 1984:5). Apart from some ethnographic studies that contain information on material culture (Schapera 1953; Larson 1970; Ebert 1977; Lee 1979; Tanaka 1980, 1987; Shaw and van Warmelo 1981, 1988; Silberbauer 1981; Shaw 1993), no significant scientific publication is available on any aspect of southern African handicrafts. The economics of the handicraft industry have been largely overlooked in the southern African setting, except for one master's thesis on the economics of craft markets in KwaZulu-Natal, South Africa (Wood 1996). A major reason for the lack of interest in researching the handicraft sector and other informal activities in developing countries appears to be that the cost of collecting and compiling even basic information from scattered entrepreneurs is seen to be too high compared with the benefits accruing to the economies (Rempel 1992:2).

Meanwhile, without research, the debate carries on. One side of the argument states that the handicraft industry is financially viable, and provides much-needed income and employment to individuals, while encouraging self-reliance and self-respect (Minkes 1952/53; Weinrich 1973; Allal and Chuta 1982; CI 1985; Vulcano 1985; DECTA 1988; Kennedy 1988; Pye 1988; Melgin 1990; Brand *et al* 1993:299–301; Kuru 1993). This side feels that the sector is an important industry as it stands and is worthy of promotion and support. The other side argues that craft producers are exploited, and the potential for increasing incomes and adding to the economic development of a country through narrowly-defined handicraft projects is very limited at best or, taking the most negative stance, totally impossible (Karsten 1972:13; Upadhyay 1973:ix; Carr 1984:8; IAE 1985:52; Bishop, pers. comm., 1993; Sibanda, pers. comm., 1993; Ogana 1998:1).

To bring substance to these arguments, information is needed on past and existing craft projects to evaluate properly the sector's contribution to individual and national development (Upadhyay 1973:ix; Jules-Rosette 1985:108; Pye 1988), and, if positive, to encourage better planning of future activities. Research is needed to develop realisable objectives for production and marketing organisations, formulate relevant policies and justify government or non-government interventions, especially concerning funding, in support of the sector (Vencatachellum 1990:152; Shepherd 1998:100–101). Otherwise craft development will continue in a haphazard manner and with a half-hearted effort. Other sectors will continue to benefit from substantial support. Opportunities will be ignored and missed. Without research and formal recognition of the economic value of craft activities, there is little hope for encouragement and promotion of this industry (Knye and Keyter 1990:9).

1.3 THE IMPORTANCE OF STUDYING THE HANDICRAFT SECTOR FOR BOTSWANA

The focus of this study is Botswana. In Botswana today, the importance of concentrating on the rural economy is recognised because it currently makes an important formal contribution to output (GDP). Any development strategy, "depends crucially on the way it tackles the problems of the rural sector. It is in this sector that the really hard choices have to be made" (Perrings 1988:3). Recognition is made of the fact that food self-sufficiency is an inappropriate rural development policy for Botswana (GOB 1990b; Perrings *et al* 1992) and that food security depends on income security rather than only the development of the agriculture sector. Since this is the case, the problem of income security needs to be addressed directly. The best means of addressing this problem is through the promotion of rural development by widening the opportunities open to rural households (Perrings *et al* 1992; Mbere and Matsvai 1993; Tsie 1996; MFDP 1997; World Bank 1997). Handicraft development is one way to do this. At times, the Botswana government has agreed, claiming that the development of the craft industry can provide an important source of income to rural people and will assist in the diversification of economic structures and sources of foreign exchange earnings (GOB 1984:5; MCI 1992:3).

While the Botswana government is fully committed to rural development, industrial development in rural areas must be balanced with urban industrial development, typically modern and often of larger scale. Government has chosen to follow a pattern of industrial development that balances both areas, and aims to expand the different sectors in a complementary fashion. Thus, policy is directed towards the promotion of small and large, rural and urban, formal and informal sectors (GOB 1984:5). Modern, contemporary handicraft production in urban areas falls directly under this policy.

While the Botswana government in theory supports the idea of handicraft production and promotion in both rural and urban areas, similar to other southern African countries Botswana lacks information, and in the end little practical assistance is provided through the public sector (Jones 1988:67). Except in a few craft project reports (Terry 1986b; White 1988) and in one survey of craft producers for the North East District (Taussig 1980; MacKenzie and Taussig 1981) there is a glaring absence of producer or household-level financial and social data. No one, from senior government officers in the Ministry of Finance and Development Planning (MFDP) or the Ministry of Commerce and Industry (MCI) to craft development workers in the field, is equipped to speak on either side of the argument 'for or against crafts', because they lack hard facts to state their case. Few can prepare sound plans for future activities, including institutional development and human resource and funding allocations, and production and marketing are in relative disarray due to the lack of a coordinated development strategy (Jones 1988; Dunn 1994; Gjern, pers. comm. 1999).

This study aims to provide facts for the debate fuelled largely by raw emotion, and thus, to assist with the decisive planning and implementation of handicraft programmes and the development of appropriate policies in support of the sector. This study compares the economic, financial, social and cultural significance of the handicraft industry with other non-agricultural, small-scale, income-generating activities in Botswana. Data have been collected at the producer, household, production unit, marketing outlet and national levels with the aim of showing that the handicraft industry of Botswana is beneficial to individuals working in the industry and to the nation as a whole. This thesis argues that

the handicraft industry is significant as it stands and is therefore worthy of support like any other sector in Botswana.

In addition, the information obtained from this one southern African country may be useful to national planners and handicraft sector advisors in other countries. Researchers might be encouraged to take on similar studies for other countries to build up a body of literature on the craft sector of southern Africa. A wider expanse of data would then be available to lend solid evidence to the debate about the value of the sector, on which sound decisions could be made.

1.4 AIMS AND HYPOTHESES OF THE RESEARCH

In order to develop a body of information on the handicraft sector in Botswana, especially economic data, and to test whether the handicraft industry is beneficial to individuals working in the industry and to the nation as a whole, this research study has the following aims and hypotheses:

1) To determine the actual financial, social and cultural impact of the handicraft industry on craft producers, their households and their communities.

2) To estimate the financial, economic, social and cultural value of the handicraft industry to the nation of Botswana.

3) To compare the geographical variations within Botswana by testing the following hypothesis:

    3a) Financial, social and cultural benefits are greater for individual producers and production units in rural areas than in urban areas.

    3b) Financial, social and cultural benefits are greater for individual producers located in areas frequented by craft-buying organisations and/or tourists as compared with areas not frequented by these buyers.

4) To compare, in financial, economic, social and cultural terms, the contribution of the handicraft industry with the contribution of other non-farm, small-scale, income-generating opportunities by testing the following hypotheses:

4a) Private profitability, social and cultural benefits are greater for individual craft producers and enterprises than for those in other non-farm, small-scale industries.

4b) Total financial and economic benefits and average private profitability and economic efficiency are greater for the handicraft sector in Botswana than for the non-farm, small-scale industry sector (exclusive of handicraft production).

5) To establish policy implications in particular relating to interventions in support of the handicraft sector by government and non-government organisations (NGOs).

1.5 STRUCTURE OF THE THESIS

After this introductory chapter, Chapter 2 covers the concepts underlying the thesis as gleaned from the literature. A variety of issues are examined to provide a foundation and a set of propositions for the rest of the study. Chapter 2 begins with an introduction to the nature of poverty including some differences in rural and urban conditions. Different types of income-generating activities are described, focussing on their nuances and significance. The next sections move specifically to the handicraft sector, including a recognition of its important contribution to employment and income-generation in developing countries. The craft sector's relationship to culture and tourism is examined, along with the sector's impact on community and family status, family stability and migration. The chapter ends by examining policy formulation and strategies to increase the sector's positive impact. Examples from specific handicraft programmes in southern Africa and other parts of the world are given throughout the chapter.

The setting of the study – Botswana – is described in Chapter 3. This chapter includes introductory information on Botswana's physical resources, people, culture and economy. National-level administrative structures and development policies and planning relevant to the handicraft sector are described. A description of the two sectors (non-farm, small-scale industries and tourism) that link logically to crafts is also included.

An overview of the handicraft industry of Botswana is featured in Chapter 4. Craft producers are characterised by product type, production systems used, location, gender

and tribal affiliation. Information is given on specific types of craft products and raw materials used. An overview of marketing structures, assistance and development activities currently available for craftspeople is included.

Chapter 5 provides an overview of the research methodology for this thesis. Because most of the research was done through quantitative survey work and financial and economic cost-benefit analysis, a detailed description of the methodology is given.

After this background information has been provided, the rest of the thesis deals with the interpretation and analysis of the survey data and cost-benefit models. The results of the three surveys (individual producers, production units and marketing outlets) undertaken in the field are set out in Chapter 6. Other study results are outlined in Chapter 7. This chapter looks at the differences between the craft sector and the non-craft sector by summarising the findings from the secondary information collected on the non-craft sector and the results of the financial and economic cost-benefit models.

Chapter 8 concentrates on the handicraft industry's contribution to individual, household and community welfare by analysing the findings from the surveys and models. The financial impact is first explored, and then the social and cultural effects, including an analysis of the craft sector's impact on migration and family stability, community status and development, and cultural identity. The effect of geographical variations on benefits is explored by comparing producers living in rural areas with those in urban areas, and producers living in areas with good access to markets versus those without.

The handicraft sector's contribution to national welfare is examined in Chapter 9, including its financial, economic, social and cultural impact. The possibility of a reduction in social welfare, because citizens earn income in the craft sector, is explored. Crafts' relation to the tourism industry is also discussed in this chapter. Finally, an attempt is made to describe the economic characteristics of the natural resources used in craftmaking and the problems associated with over-utilisation.

In Chapter 10, the conclusions drawn from Chapters 6 through 9 about the benefits derived from the handicraft sector are compared with benefits from the other small-scale, non-farm, income-generating opportunities in Botswana. The impact on both individual producers and the nation is compared for the two sectors.

The thesis ends with Chapter 11, which contains a summary of the benefits emanating from the handicraft industry and a justification for a policy of support. Possible key policies and policy implications are described regarding interventions in support of the sector by both government and NGOs. Policies and strategies that link the handicraft sector to other sectors are also outlined. Four case studies are used to describe the potential impact of such policies. A short analysis of the results of the aims and hypotheses draws the thesis to a close.

A list of references and all appendices follows the text. Appendix 1.1 lists acronyms and Appendix 1.2 provides definitions of important terms used throughout the text. At the end of the thesis, four published articles or book chapters written by the author are annexed. These publications, which were written before or during this study, provide more details on the craft industry of Botswana, including some photographs of craft products and producers.

2. HANDICRAFTS AND DEVELOPMENT: THEORETICAL AND CONCEPTUAL PERSPECTIVES

2.1 INTRODUCTION

In most developing countries, poverty, unemployment and unequal income distribution are major problems. The development of small-scale industries, including handicraft production, has been one strategy for addressing these problems (Allal and Chuta 1982; Terry 1989a, 1989b, 1992a; Haffajee 1994:39; NPC 1995:161). This thesis argues that for a country like Botswana, the craft sector can play an active role in the development process and should be encouraged to enable it to reach its fullest potential. As background for this argument, an understanding of certain theories and concepts is necessary.

This chapter begins with an introduction to the nature of poverty including some differences in rural and urban conditions. Section 2.3 defines different types of income-generating activities, concentrating on their subtle differences, and Section 2.4 explores their significance. The next sections specifically cover the handicraft sector, including a recognition of the sector's important contribution to employment and income generation in developing countries. The relationship of handicrafts to culture and tourism is examined, along with the sector's impact on community and family status, family stability and migration. The final section looks at developing appropriate and coordinated policies and institutional support to increase the sector's developmental impact.

2.2 THE NATURE OF POVERTY IN RURAL AND URBAN AREAS IN DEVELOPING COUNTRIES

The World Bank (1990) uses two terms to define poverty: absolute poverty and relative poverty. Using consumption-based poverty lines, **absolute poverty** is defined as the "inability to attain minimal standards of consumption to satisfy basic physiological criteria." This definition is most directly expressed in not having enough to eat – that is hunger or malnutrition. For international measurement and comparison, the poverty line in 1990 was drawn at a per capita annual income of US$370 (P850) and remained the same throughout this thesis study (Maxwell 1999:3).[1] 'Extreme' poverty was

[1] The poverty line is based on "the expenditure necessary to buy a minimum standard of nutrition and other necessities" (World Bank 1990). At the start of this study in 1990, P1.00 was equal to about US$0.43 and £0.29.

considered to exist below a per capita annual income of US$275 (P637). Other poverty indicators include food security and basic needs indexes (Shepherd 1998:92).

Beyond the satisfaction of basic physical needs, income is important to "increase the capabilities of individuals" to participate "in everyday life of society" (Sen 1978, 1984; Comaroff 1980; World Bank 1990; Maxwell 1999). Adam Smith's view on the "necessities of life" included not only the "commodities which are indispensably necessary for the support of life, but whatever the custom of the country renders it indecent for creditable people, even of the lowest order, to be without" (Hopkins and van der Hoeven 1983:7). The concept of **relative poverty** was first investigated by Townsend while working on poverty in Britain in the 1970s:

> "Individuals, families and groups in the population can be said to be in poverty when they lack the resources to obtain the types of diets, participate in the activities and have the living conditions and amenities which are customary, or at least widely encouraged and approved, in the societies to which they belong. Their resources are so seriously below those commanded by the average individual or family that they are, in effect, excluded from ordinary living patterns, customs and activities." (Townsend 1970 as cited by Bernstein *et al* 1992:17)

Obtaining a measure for relative poverty is much more difficult than finding one for absolute poverty because determining the criterion to measure the necessary material conditions for "a full social existence" is a very subjective exercise (World Bank 1990:27; Maxwell 1999:1). Bernstein *et al* (1992:18) believe that the virtually exclusive concentration of governments and development agencies on consumption and income-based poverty means this aspect is often addressed at the expense of the others:

> "For poor people, achieving security and recognition of their dignity as human beings may be just important as, or inseparable from improving their incomes and standards of consumption. Indeed, they may be prepared in certain circumstances to 'trade off' possible gains in income against gains in their security and self-respect."

People working in the handicraft field are a good example of Bernstein's point. Sometimes when the income is not that great people still choose craftwork over other possibilities because this work offers convenience, creativity and self-respect (Krause 1997:5; The Craft Centre 1998:8). Since the mid-1990s, greater recognition has been given to addressing relative poverty not just absolute poverty, and many donor

organisations are giving priority to marginalised groups, women and female-headed households (Cox and Healey 1998:2; Maxwell 1999:2).

Along with recognising the differences between absolute and relative poverty, it is also important to examine some of the differences and similarities underlying rural and urban poverty. Approximately two-thirds of the people of developing countries live in rural areas and an estimated 70 percent of the world's poor live in rural areas, but since the urban areas have the greater concentration of economic and political power, the rural areas typically receive a lower quality of social services (UNDP 1992:23; Carney 1999:2). In Botswana, approximately 77 percent of the total population is rural and an estimated 55 percent of the rural population is in absolute poverty (FAO 1986:7).

The basic characteristics common to the rural poor throughout the developing world can be classified into five dimensions according to Chambers (1988b:8–9):

1) Poverty proper – lack of income and assets
2) Physical weakness – ill-health, under-nutrition, disabilities
3) Isolation – lack of education, lack of access
4) Vulnerability – to climatic changes, to contingencies, to becoming poorer
5) Powerlessness – associated with relations outside and within the household, lack of independence and self-respect

Marked differences occur in these areas among the poor based on certain social and cultural characteristics, which Chambers (1988b:7) calls "ascribed deprivation." Certain categories are more likely to be poor than others according to their ascribed characteristics such as gender, age, land tenure status, and membership of oppressed ethnic or minority groups based on tribal affiliation, clan membership, or caste (Simon 1984:556; FAO 1986:19; Chambers 1988b:7; Tsie 1996:602–604; Cox and Healey 1998:2; Maxwell 1999:2).

Rural poverty can also have a spatial dimension (Cox and Healey 1998; Carney 1999). Particular regions, rural localities or types of villages can be poorer than others. Several examples from Botswana can be cited. Some of the most widespread child malnutrition is found among families of employees on freehold farms and in the Chobe Enclave area of northern Botswana (Callear, pers. comm., 1988; Morgan 1988:37). Other groups characterised by poverty are those living in remote areas usually associated with low agricultural potential and unreliable rainfall, for example Kalahari dwellers (Morgan

1988:37). The Remote Area Development Programme (RADP) in Botswana was prompted by this disparity based on spatial location (Kahn *et al* 1990; MFDP 1991:17; Hitchcock 1992:6).

Another dimension of rural poverty can be a structural factor concerning access to resources and rights, including: land and farming implements, credit, goods and services, employment opportunities, welfare state provisions, and democratic and legal systems (FAO 1986:14; Chambers 1988b:8; Bernstein *et al* 1992:18; Carney 1999:2; Maxwell 1999:2).[2] Lack of access can be associated with a spatial dimension, but social and economic impediments can also be causes.

While agriculture may be the main economic activity in most rural areas, returns from agricultural work may often be low and non-agricultural employment opportunities may be quite limited (Carr 1988:vii; Bernstein *et al* 1992:3; NPC 1995:161; Solway 1998:429). Not all rural people gain adequate and secure livelihoods from farming because many are landless or marginal farmers (i.e. having landholdings of inadequate size and/or farming in difficult or unpredictable environments, such as those areas prone to drought or flooding). For example in Botswana, many Bushmen are reportedly receiving only in-kind payments when they work on large, freehold tenure farms. Often household members have to find non-agricultural work and at times move away from the rural area to find other work. Men in many countries of southern Africa, including Botswana, often left to find more lucrative work in the South African mines. Both women and men have migrated to cities to search for work (Tsie 1996:604).

Clearly, to combat poverty and avoid unemployment, diversification becomes the key household strategy (Berry 1980; Madeley 1989; Andrews and Manamela 1991; Mustapha 1992; NPC 1995; Carney 1999). Most rural people pursue a livelihood from a range of means, switching around as circumstances dictate. The degree of diversification usually impacts the household income level (Shepherd 1998:95). In Botswana, most rural households have a three-tiered strategy. If possible, they are engaged in raising livestock, dryland or wetland agriculture and some form of non-agricultural income-generating activity (i.e. either trade, service or small-scale production, including craft production).

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[2] **Structural poverty** is considered to be long-term poverty of individuals due to their personal or social circumstances as compared to **conjunctural poverty**, which is the temporary poverty into which ordinary self-sufficient people may be thrown into by crisis (such as drought in Botswana, war in other southern African countries) (Iliffe 1987:4; Bernstein *et al* 1992:133; Carney 1999:4).

Urban poverty is usually characterised by several factors, including: poor housing, low incomes and poor health, but all these indicators have their limitations (Hurley 1990:4–8). For example, the most visible indicator of poverty is often the poor quality of people's homes and their neighbourhoods, including the presence of slums, shanty towns, overcrowded housing and poor sanitation facilities. However, poor housing by itself should not be taken as an indicator of absolute poverty because insecure tenure on property can often lead to urban dwellers giving housing improvements a low priority.

As in rural areas, the forces that both create and sustain urban poverty are intensified for certain groups because of their position in society and/or their locality (Carr 1984; Hurley 1990; Bernstein *et al* 1992). Women, children (especially girls), and old, disabled or sick people are particularly susceptible to discrimination by more powerful household members. Women who are not attached to male-headed households, including the female head herself and younger unmarried women, are likely to be disproportionately represented among the structural urban poor (MFDP 1997:24). Income earned by the extra work of one family member may be controlled by another (Shepherd 1998:97).

Similar to the rural dwellers, poor urban households usually rely on a variety of methods to obtain income (Carney 1999:3). There are two main ways in which poor urban households can meet their basic needs: 1) through social entitlements to goods and services and 2) through earning their own income (Hurley 1990:8; World Bank 1997:8). Social entitlements can come from social ties with extended families or tribal and clan links, from the public sector through social welfare transfers and public services such as sanitation and water supply, and from private sources such as programmes sponsored by NGOs or charitable organisations. As part of his research in the 1970s and 1980s, Amartya Sen analysed the commodity bundles to which an individual was 'entitled' (Maxwell 1999:3). Income can come from a variety of sources, including: wages from labour as an employee or self-employed (including the children), profits from ownership of assets, rents, and payoffs such as bribes and 'privileges' from certain power relations.

Even if social entitlements are abundant, the importance to most poor people of earning their own income must not be underestimated (Hurley 1990:10; Tsie 1996:605). Chambers' (1988a:16) priorities for rural people, "independence and self-respect", are equally important to the urban poor. Hurley (1990: 10) notes that the urban economy may present a greater variety of sources of income than the rural setting, and de Soto (1989) sees the growth of the informal sector as a direct response to accelerated rural-urban

migration. However, expanding urban population also means stiff competition for any income opportunities that are available, especially among the unskilled (de Soto 1989).

From the early 1990s, thinking has shifted from 'growth at any cost' and 'trickle down' poverty alleviation to such concepts as the IMF's 'high quality growth', which should be equitable, give attention to the poor and vulnerable, and protect the environment, and the World Bank's 'poverty reducing growth', which emphasises income-generating opportunities and improved access to services for the poor (Jazairy *et al* 1992; Shepherd 1998). The complexity of poverty and the power of the forces underlying it must not be ignored when assisting people to increase their incomes and to become self-reliant. Greater recognition is recently being given to the direct involvement of the poor in the design and implementation of poverty reduction programmes, and the need for genuine commitment to the poor on the part of developing country governments, using a so-called 'pro-poor' strategy (Cox and Healey 1998; SANGOCO 1998; Shepherd 1998; World Bank 1998; Carney 1999). Investing in "the human capital of the poor is an intrinsic part of such a strategy", which can include the provision of better opportunities for the poor through greater employment options and by improving their access to credit, knowledge and improved infrastructure (Cox and Healey 1998:2). Properly designed handicraft programmes that include close involvement of the recipients in the design and implementation, and feasibility studies to assess sustainability, production improvement and marketing elements can give households needed income, along with lifelong skills, and long-term security, independence and self-respect.

2.3 INCOME-GENERATING ACTIVITIES: NON-FARM EMPLOYMENT, SMALL-SCALE INDUSTRIES AND THE INFORMAL SECTOR

This section will clarify the different, but often overlapping, aspects of various income-generating activities including: non-farm activities, micro- and small-scale enterprises (MSEs) and the informal sector. Various definitions and theoretical conceptualisations are presented.

2.3.1 Definitions

Income-generating activities can be defined as any activities with the potential to generate cash income. By definition, barter or the exchange of goods or services and subsistence or own-use of a product are excluded. Both agricultural and non-agricultural

activities can be income-generating.[3] For this study, **agricultural activities** mean activities relating to arable agriculture, horticulture and livestock rearing. **Non-agricultural activities** are all activities within mining, manufacturing, construction, commerce, transport and services. In Botswana, non-farm activities include fishing, hunting and gathering, small-scale forestry product utilisation, hawking/vending, prostitution, beer-brewing, bread-baking, milling, metalwork, carpentry, sewing, knitting and all handicraft production.

The World Bank (1978:26) estimates that one-third of all non-farm activities fall into the manufacturing category. Often rural manufacturing is based on the needs of rural households (Browne 1978; Austin 1981; DCMFA 1992). Some authors (Berg *et al* 1978; Nimpuno 1978) argue that all rural industries should be directly linked to and support the local agricultural sector. Their ideas are obviously less relevant in marginal agricultural areas. Harper (1984), Carr (1988) and others recognise the value of non-farm activities focussing on markets outside the area of production. Work geared solely to local consumption only circulates money, it does not create wealth. Also, only a few bread bakers, blacksmiths, etc. can earn a living in one village, because of the limited market. Ideally both inside and outside market-orientated activities should exist. Certain artisans can serve the local community and create some limited employment opportunities. Others can produce goods, including crafts, for 'export' out of the village as a source of 'new' money and employment for more people than any locally marketed product.

Many agricultural (operations and processing) and non-agricultural activities can also fall under the heading of **small-scale enterprises**. Small-scale activities in the manufacturing sector are usually classified as **small-scale industries**, because the word 'industries' is associated with manufacturing or changing the physical form of raw materials in order to produce certain products (Harper 1984:7).

Definitions of 'small-scale' vary and can be based on several different factors. Individual countries typically have their own definition according to their needs (Lassort and Clavier 1989:58). For this study, **small-scale enterprises** are defined as non-farm activities that have the potential to generate income and employment and are non-capital intensive, but usually highly labour- intensive. In Botswana, 'small-scale' is specifically defined for the

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[3] 'Agricultural' versus 'non-agricultural' activity can be used synonymously with 'farm' versus 'non-farm' activity. The terms 'on-farm' versus 'off-farm' do not refer to the kind of activity but rather the location of the activity, that is 'on the farm' or 'outside of the farm'. In Botswana, the terms 'the lands' or 'lands area' are synonymous with 'farm'.

Financial Assistance Policy (FAP) as an enterprise needing P25,000 or less for start-up capital investment, and employing less than 40 people but usually from one to five employees (EPU 1989). While there is no clear global definition of **micro-enterprises**, very small businesses consisting of a single, self-employed person, a family or very few employees (i.e. less than five) can be considered as such. MSEs based at home, using traditional artisanal techniques are often called **cottage industries** (Arnold *et al* 1987:9).

The term **informal sector** was first coined by Hart for Ghana in 1971, but became common place after a ILO mission in Kenya in 1972 (Musyoki and Orodho 1993:108; King 1996:xvii&7). King (1996:193) also notes that the informal sector was often associated with urban activities, and when examined in rural areas, the informal sector was conceptualised as 'off-farm' or 'non-farm' activities. In most literature, **informal sector enterprises** are defined as businesses that are operating outside the formal economy, not registered with government, unregulated and not protected by any laws concerning minimum wages, social security or safety (Simon 1984; JASPA 1986; de Soto 1989; Levitsky 1989; Portes *et al* 1989; Harriss 1990; Preston-Whyte and Rogerson 1991). Harper (1984:27) and Hirschowitz (1991:2) add that informal sector activities are often operating outside the law, have few, if any, paid employees and the work premises are often temporary or mobile. Castells and Portes (1989) suggest that informal enterprises are deliberately detached from formal enterprises with the intention of avoiding labour and other regulations. PEER Consultants (1997:6), note that Botswana, however, differs from many other African countries in that informal hawkers and vendors easily obtain licences. To avoid the negative connotation that sometimes surrounds the term informal sector, particularly the legal status, Hirschowitz (1991:31), writing for the Human Sciences Research Council (HSRC) of South Africa, suggests the term **'emerging businesses'**.

In order to position the craft sector and its sub-sectors within these definitions, it is important to look at the alternative ways that MSEs and the informal sector are conceptualised. The informal sector is sometimes defined as a residual category (i.e. anything that is not in the formal sector). Sometimes this formal-informal sector dichotomy is omitted by proposing various versions of a continuum of income-earning activities in terms of size, regularity of operation, legality, etc. (Dewar and Watson 1981; Simon 1981). In Botswana, all of the handicraft producers working individually and engaged in **traditional, informal craft production** would come at the informal end of the spectrum, but also actively interact with the formal sector through marketing activities. In contrast, most producers engaged in **contemporary, formal craft**

production as members or employees in production units would be part of the formal sector and would be subject to the employment and tax laws of Botswana. Recent Botswana policy statements state that the informal sector and the micro-enterprise sector are one in the same (MCI 1999:2). Table 2.1 defines the income-generation sectors by size and character, which is appropriate for the Botswana context and for this study on Botswana's craft industry, especially if the first two categories (informal and micro) are seen as overlapping.

TABLE 2.1 CATEGORIES OF ENTERPRISES FOR THIS STUDY IN BOTSWANA

TYPE	REGISTERED	LOCATION	CAPITAL ASSETS	NUMBER OF EMPLOYEES
Informal	No	House or Not Fixed	Minimal	1–2, family
Micro	Sometimes	House or Facility	Up to P5,000	<6, mostly family
Small	Usually	Facility	Up to P25,000	6–24, mostly non-family
Medium	Always	Facility	Up to P900,000	25–100, non-family

Source: SIAPAC (1991:6) and MCI (1998:2 –3)

Although the vast majority of craft enterprises in Botswana would fall under the first three categories, a few of the larger leather, textile and weaving workshops are considered as **medium-scale** because their capital investment would be more than P25,000 and they employ more than 24 people. Therefore, the craft sector as a whole cannot be categorised into just one definition, but falls across all four categories.

Once the handicraft industry's value is estimated, it will be compared with the value of **non-handicraft, non-farm, informal, micro- and small-scale income-generating activities**, which will be referred to as **'the non-craft sector'** throughout this thesis.

2.3.2 Theoretical Framework

Le Brun and Gerry (1975), Bromley and Gerry (1979a, 1979b), and McGee (1979), among others, criticise the ILO's work of the 1970s saying that most of the studies of informal-sector development exhibit a very weak understanding of it, and that stems from a failure to advance theoretical and empirical analysis beyond the simple taxonomic considerations or classification of activities. The theoretical platform, which draws on the work of the ILO (1972), suggests a simple 'modern–traditional', often referred to as a 'formal–informal' dichotomy (Reichmuth 1978; Truu and Black 1980; Zarenda 1980).

This theory suggests a dualistic economy with two separate economic systems which must co-exist in the same geographical space. One system reflects intense development of certain economic activities, best represented in developing countries as the result of foreign investment to exploit an abundant natural resource for which there is a high demand. It is characterised by modern capital-intensive industry, extensive trade and economic transactions. The other system involves labour-intensive activities, local services and limited trade (Goodall 1987:137). Friedmann and Sullivan (1974) and House (1984) further separate the informal sector part of the dichotomy into two sub-sectors: "an intermediate sector", which appear as a reservoir of "dynamic entrepreneurs", and a "street economy" or the "community of the poor", which constitutes a large body of residual and underemployed labour who could not get a job in the formal sector and must devise a way of obtaining an income (Simon 1984:569, 1992:1031; Lagos 1995:111).

Since the ILO work, alternative theoretical platforms have been formulated (most during the mid-1970s and to mid-1980s) to conceptualise, analyse and prescribe solutions for the informal sector, with vigorous, continuous debate (Simon 1981:295, 1984:559, 1992:1031; Seppala 1996:557). The formal–informal sector dichotomy construct was increasingly discredited due to its inadequacies, mainly the problem of determining how many and which type of criteria were needed to define and place a specific activity into the appropriate sector (Simon 1981:295, 1992:1032). Presumably, another major weakness of this theory is that is does not examine the interaction between the two supposedly 'dichotomous' sectors.

It is precisely for these reasons that the Botswana craft sector as a whole cannot be neatly analysed according to the dualistic platform. When looking at the entire craft sector, one may argue that the formal craft production units fit into the formal sector and the informal/traditional individual craft producers fit into the informal sector, thus the craft sector splits into two. However, looking more deeply into the definitions, the formal production units generally are not "the result of foreign investment to exploit an abundant natural resource for which there is a high demand", nor can they be particularly characterised as a "modern capital-intensive industry". The terms "extensive trade" and "economic transactions" can be used to classify these formal production units, but the terms equally apply to the individual, traditional producer in Botswana because most are making their products to sell for cash to formal marketing organisations and occasionally to the formal tourist sector. Both types of craft production systems involve "labour-intensive activities". The terms "local services" and "limited trade", therefore, do not apply to the informal/traditional craft producers of Botswana.

The informal/traditional craft producers of Botswana also fall across, rather than fitting neatly into, the two sub-sectors of the informal sector as defined by Friedmann and Sullivan (1974) and House (1984). Some fit into the "intermediate sector" because they are "dynamic entrepreneurs" making better income than some in the formal sector, while others could be considered as part of the "community of the poor", because they lack the appropriate education, skills or opportunity to find a job in the formal sector and "must devise a way of obtaining an income."

Because both of these sub-sectors embrace informal/traditional craft producers, the neoclassical theory of economics, which emphasises the influence of market mechanisms in guiding economic activities towards optimal resource allocation, can be used to analyse the craft sector, along with other activities in the informal sector. Some informal sector activities (and some craft production activities) are due to imperfections in the formal sector market, but not all (Zarenda 1980). In contrast, some traditional craft producers are not interested in obtaining jobs in the formal sector, preferring instead the inherent flexibility of working for themselves in micro-scale craft production, which may help to maximise resources at the household decision-making level.

Another prominent theoretical conceptualisation to analyse the informal sector examines mode of production (Simon 1981:295, 1984:559). Le Brun and Gerry (1975:20), Moser (1978:1041) and others view the informal sector as a form of petty-commodity production that coexists on subordinate terms with the capitalistic mode. The informal sector is seen as a distinct form of production and reproduction which demonstrates considerable stratification and is firmly integrated with and heavily dependent on, the formal capitalist mode of production, which therefore determines the space in which the informal sector may develop (Le Brun and Gerry 1975). In a process of a "dialectical" nature, the two interact, adjust to each other, become interdependent and thus end up losing a part of their distinctiveness (Bienefeld 1975:54; Le Brun and Gerry 1975:20). McGee (1979:6-8) characterises this process as one of "conservation" and "dissolution" with the objective to retain the informal sector at some "optimal size" that will maximise its function for capitalistic accumulation (Davies 1977:69). The "dissolution of petty production" comes from the establishment of capitalist enterprises that do not want competition, but, because "only petty production is capable of satisfying the largest part of the consumption requirements of the urban masses, the capitalistic mode of production also tends to 'conserve' this form of production by subordinating it" (Le Brun and Gerry 1975:30; Wilkinson and Webster 1982:4).

This analysis may be usefully applied to the hawker/street vendor component of the informal sector — and in fact much of McGee's work has been based on his analysis of hawkers in Hong Kong (Santos 1979:10) — but it does not appear to be very applicable to the informal/traditional craft producers of Botswana. Firstly, in Botswana, informal/traditional craft producers are not competing with anyone in the formal sector. Secondly, by providing products to the formal sector the traditional craft producers are actually serving the formal sector, and in reverse, when the formal sector marketing organisations buy the products of the informal/traditional craft producers, the formal sector is serving the craft producers. As Truu and Black (1980), House (1984) and Simon (1984) suggest about the nature and importance of the relationship between the formal and informal sectors, the relationship between informal craft production and formal craft marketing also appears to be mostly "benign in nature", following the *laissez faire*, neoclassical view (Simon 1981:297, 1992:1031&1041). The one exception to this statement may be the case where the informal/traditional craft producer is completely dependent on one formal craft marketing outlet and is therefore subject to (or in Marxist terms, subordinate to) the prices dictated by the market (see Chapter 6, Section 6.2.9). Those who feel that craft producers are exploited by middlemen clearly follow this view. Furthermore, the proponents of community-based management of the natural resources used in craft production can be seen as coming from a structuralist's or Marxist geographer's viewpoint by examining how scarce resources are allocated and by proposing solutions in terms of the social ownership of the material base.

In a survey of hawkers in central Durban in South Africa by Wellings and Sutcliffe (1984:534), some hawkers suggested reasons related to 'capitalist mode of production' for their participation in the informal sector, such as they lacked the prerequisites for formal sector jobs (especially skills) or saw the accumulation of wealth as best achieved through the informal sector. Other hawkers did not express their reasons in this way, giving social reasons instead, such as family, God, freedom and satisfaction. As will be seen later in Chapter 6 of this thesis (Sections 6.2.7 and 6.2.9), Wellings and Sutcliffe's (1984:534) mixed findings for Durban hawkers are equally true for Botswana craft producers, if one attempts to slot the craft sector into the mode of production theory.

According to Wellings and Sutcliffe (1984:537-539), in the cases where the informal sector does fit into the capitalist mode of production theory, the interrelationship between the informal and formal sector and dependency is manifested in two ways. Firstly, the informal sector "depends on formal wage employment to generate demand" and "almost all income in the informal sector is generated by internal transactions." They argue that

because this is the situation, there is no point in trying to develop the informal sector further by increasing "the level of 'export' sales to formal (white) buyers." There appears to be a great leap in the logic of the second part of their conclusion and neither part of their theory applies to the craft sector in Botswana.

The fact that income in the informal sector arises from internal (i.e. local) transactions may very well be stating the *status quo* for the typical informal sector product, but it should not imply that informal sector producers cannot be taught how to make products of unique value or high quality and therefore with market demand outside the local area. Handicraft products geared for tourists, resident expatriates, white craft marketers and upper class blacks in South Africa can be seen as a prime example, but equally so would be traditional medicines sold via black traders to formal urban Indian trading shops or exported out of South Africa (Cunningham 1991a:197). Surely other products not suited to mass-produced, formal manufacturing can also be found among the informal producers that would be of interest to the 'export' market as defined by Wellings and Sutcliffe.

The first part of their argument, that the informal sector depends on formal wage employment to generate demand, does not fully apply to the informal sector in rural or urban Botswana, and probably not to rural South Africa either. Greater amounts of income from formal wage employment do obviously make more money available, which may increase the market for informal sector products, but the traditional/informal sector in rural areas has long been running on barter systems and on income circulating within the rural area via local backward and forward linkages, and therefore not necessarily dependent on wage earners. As an example, the beer brewer (who is not earning formal wages) can buy bread or fatcakes from the local baker because she has obtained income from the sale of her beer. Similarly, traditional agriculturalists buy informal sector-produced farm tools usually with money obtained from a myriad of income-generating activities that may be undertaken by one or more of their household members. Furthermore, if the present huge growth of the informal sector is precisely because of the lack of opportunities in the formal wage market, how can the informal sector then be dependent primarily on formal wage employment to generate demand? This would imply that the informal sector would have to shrink when formal wage opportunities become fewer.

The second way in which the informal sector is dependent on the capitalist mode of production, according to Wellings and Sutcliffe (1984:539), is that "the informal sector is heavily reliant on formal supplies for inputs of commodities and raw materials." This

conclusion is true for various parts of South Africa (Jacobs 1982: 396; Wellings and Sutcliffe 1984:539), Namibia (Simon 1984:562), is definitely true for most of the hawkers in urban Botswana whose sale goods come mainly via South Africa and is generally true for non-craft, informal sector produced items, but is not true for most of Botswana's informally-produced traditional crafts.

Furthermore, Wellings and Sutcliffe (1984:539), following Santos (1979:18-19), go on to note that this dependency relationship is not in just one direction. They astutely point out that "it is not in the best interest of the formal sector to eradicate informal 'competition'" because there is "leakage of capital from the informal sector into the formal sector through the purchasing of inputs" and thus "the formal sector is in a sense 'employing' the informal sector as a means for entering the lower end of the market" because "formal-sector businesses are poorly placed to penetrate this market directly." Similarly, as suggested above, formal craft marketing businesses are just as dependent on traditional craft producers as are the traditional craft producers dependent on the formal marketers.

Before leaving the mode of production theory, it can be pointed out that it may be possible to analyse part of the Botswana informal/traditional craft sub-sector via the first Marxist mode of production, that is the 'primitive communist' mode in which factors of production are owned communally and there is equal distribution of work and the products of labour. This would be the mode incorporated by pockets of Bushman producers who still hunt collectively, share the raw materials, produce a craft product communally, and then finally share the rewards of this communal effort. Game skin beaded bags and aprons would be the best example of this. The skin comes from the hunt, the ostrich eggshell beads are found opportunistically during the hunt (by men) or gathering expeditions (by women), the men usually tan the skin, and the women prepare the beads and sew them on to the skin. The income from sales is shared within the group.

Other theoretical conceptualisations seem to blend these theoretical platforms: informal–formal dichotomy, mode of production and that the interdependency between the informal and formal sectors causes each to lose a part of its distinctiveness. Simon (1981:296) mentions that Dick and Rimmer (1980) advance "an integrated model of economic activity combining the essential dualistic elements with continua on other variables in a dynamic framework." They indicate that the key variables are mode of organisation (especially the relationship between ownership and control) and technology, with scale of operation providing the link.

Santos (1979:8-11&18) also appears to combine previous theories to create a new paradigm, or what he calls a "theoretical reformulation and re-orientation", by conceptualising the formal and informal sector as the 'two circuits' of the urban economy, namely the 'upper' or 'modern circuit' and the 'lower circuit', while at the same time exploring the interaction between the two circuits, especially emphasising the dependence of the lower upon the upper circuit. According to Santos, urban life is conditioned by the characteristics of each circuit yet each circuit maintains a discrete relationship with urban space. The upper circuit developed because of technological progress, with the most representative element being monopolies. Most of this circuit's relations takes place outside the urban area, mainly operating in a national or international framework. In contrast, the lower circuit consists of small-scale activities, "is almost exclusively for the poor" and is entrenched in the city. Santos (1979:10&20) includes "traditional productive (e.g. artisanal) activities" as a part of his lower circuit definition, and suggests that the fundamental differences between the activities of the two circuits are of a technological and organisational nature. However, he also points out that the "mixed activities", such as wholesaling and trucking, are linked to both circuits, members of one social stratum may consume outside the corresponding circuit, and dominant characteristics of one circuit may also have characteristics of the other (Santos 1979:19&20). He goes on to distinguish clearly the difference between 'dualism' and the two circuits, noting that the 'modern–traditional dichotomy' "has no place in the world now dominated by innovation-diffusion and rapidly changing consumption patterns", and rejects outright the dualism concept which implies that two historically distinct activities are in conflict with each other (Havens and Flinn 1970:7), and the urban economy is "dichotomized or fragmented." Santos also dismisses the theory of 'transition' (Smesler and Lipset 1966), feeling that this paradigm distorts the analysis of Third World urbanization because it implies that "the contemporary realities in underdeveloped countries are nothing but stages toward the current situation of the developed countries." Following Peattie (1968:38) and Stavenhagen (1969:104), Santos (1979:26) prefers to speak of the two circuits as a 'bi-polar' economy, with the relations between the two sectors representing "the functioning of a single society in which the two poles are integrated parts, originating within the same historical process." Santos (1975:9&204) suggests measures to increase the informal sector's (his lower circuit) productivity and sustain its growth while retaining "its privileged role as a supplier of employment."

A final theoretical platform drops the dualistic elements completely and suggests various continua of income-earning opportunities and activities, with the linkages made according to the size of the activity, regularity of operation, and legal status, among other

criteria (Hart 1973; Bromley and Gerry 1979a; Dewar and Watson 1981; Seppala 1996:558). According to Lagos (1995:111), following de Soto (1986), regulation in general and legality in particular become "key conceptual tools" in analysing and prescribing solutions for the informal sector. Supporters of the illegality-approach argue that the institutional and legal framework constitutes the main obstacle to the formalization (Lagos 1995:112) or growth (Simon 1984:569, 1992:1031) of the urban informal sector. This viewpoint has little to do with the informal craft producers in Botswana, because they are not expected to register or become licensed (except for those hunting), few regulations apply to them (except for laws pertaining to the use of wildlife) and they are seldom hassled by authorities (again, except in relationship to the use of wildlife and occasionally forestry products).

Except for the simple formal–informal dichotomy theory, all of these theories seem to have one thing in common: the recognition that some type of linkage exists between the formal and informal sectors (Simon 1984:560). This linkage can be seen in several ways: as two poles with integrated parts (Santos 1979), two sectors integrated through a relationship of dependency (Le Brun and Gerry 1975; Moser 1978), or analytical continua based on various criteria (Bromley and Gerry 1979; Dick and Rimmer 1980; Dewar and Watson 1981). Simon (1981:297&298, 1984:560) feels that the debate on the nature of such bonds has rested mostly on theoretical or philosophical positioning rather than on empirical data. He feels that research should focus on the strength and nature of the linkages over time and space, and also bring the rural sector into the analysis. More recent studies also emphasise the necessity of bringing the rural informal sector into the analysis process (King 1996:193; Seppala 1996:558). Only in these ways will the "theoretical and definitional logjam" be broken and progress can be made towards appropriate policy decisions for various specific situations and countries (Simon 1981:298). As will be seen in later chapters, the empirical research conducted for this thesis reinforces the viewpoint that there are indeed strong linkages between the informal and informal sectors in Botswana, in general, and, for the craft sector in particular, the links come mainly via marketing modes, and to a lesser extent, via inputs from the formal sector to the informal producers. Therefore, the theories that look at the interaction between the two sectors, include the rural-based informal sector and examine the various linkages are the most relevant for Botswana's craft sector.

2.4 THE SIGNIFICANCE OF NON-FARM, SMALL-SCALE AND INFORMAL SECTORS

While the debate continues, the international literature of recent years generally indicates support for expansion of these sectors. Simon (1984) notes that the general attitude in the 1950s and 1960s considered the informal sector to be 'illegal', 'parasitic' or 'unhygienic', but by the 1980s, analysts and policymakers had become more aware of its importance (Hirschowitz 1991; Brand *et al* 1993; Musyoki and Orodho 1993; King 1991, 1996). Both government and non-government agencies have increasingly focussed on training and financial support, and by the late 1980s, particular attention was being directed towards women (Berger 1989; Grierson and LaTowsky 1989; King 1991; Mason 1991; SIAPAC 1991; Hansohm and Shiimi 1995; Ramsay-Merriam 1998b). However, the level of support remains low in comparison with what many governments are doing for large-scale firms (Glaser 1989:57; Salkin, pers. comm., 1990; Thomas 1990:7; DBSA 1992:2).

One fundamental argument against the promotion of these sectors states that 'successful' interventions actually end up perpetuating the divisions in society and strengthening existing systems, which are fundamentally exploitative, keeping poor countries and poor people within the countries on the periphery of the capitalist world (Moser 1979; Harper 1984; Hirschowitz 1991; Rasmussen, pers. comm., 1993). However, recent findings are disputing these perceptions. The sheer size of these sectors clearly indicates their role as a socio-economic safety net for those unable to find employment elsewhere (Simon 1984:559; Liedholm and Mead 1988; Stearns 1988; Kirsten 1991; SANGOCO 1998:6). Due to the formal sector's increasing inability to create a sufficient number of jobs, formal vocational training programmes are beginning to prepare people to run their own business, not just to seek formal employment (McGrath and King 1995:13; King 1996:14). Furthermore, Kinyanjui (1992) has found for Kenya that a majority of informal sector enterprises are "viable and dynamic" and that the operators decide to participate in the activity, not because of a lack of other opportunities, but because of a recognition of their profit potential. As a specific example, Kenyan women who sell cooked meals to casual labourers at building sites report net income earnings equal to middle-grade public servants (Musyoki and Orodho 1993:119). Hirschowitz (1991:5), for South Africa, notes that a certain segment of informal sector entrepreneurs choose to leave formal employment for the informal sector because of "family considerations and a desire for independence." Brand *et al* (1993:283)for Zimbabwe state that many have opted for informal sector participation because of unfavourable wages and working conditions in the formal sector. Evidence also points conclusively to small businesses as a more

productive source of jobs, per unit of capital invested or product produced, than large businesses (Fundanga 1985; Cable *et al* 1986; ILO 1986; CS 1994; King 1996).

For developing countries, rough estimates have been made that between 20 and 35 percent of the rural labour force are engaged in non-farm activities as their primary source of earning (World Bank 1978; Austin 1981; Livingstone 1986; de Wilde *et al* 1991). Between 50 and 90 percent of the industrial workforce are comprised of micro-entrepreneurs (DCMFA 1992:11), and up to 80 percent of the workforce might belong to the informal sector (Bock 1989:73). After analysing 45 individual studies, Kirsten (1991:155–158) estimates that about one out of every four economically-active black people in South Africa (or almost two million) were making a living out of the informal sector in 1985, with this "hidden income" amounting to 5.1 percent of the South African GDP (or R110 billion). In most developing countries, the involvement of women increases when moving from the formal, large-scale sector to medium and small-scale and through to the informal sector (Hirschowitz 1991:4&13; Brand *et al* 1993:283)

Some opponents of small- and medium-scale enterprises also argue that a lack of an 'enterprise culture' in most African countries puts them at a severe disadvantage compared with the rest of the world. Glaser (1989:57) describes the factors that have hindered entrepreneurial spirit:

> "... two and a half decades of nation-building which have put the accent on government, party, and administration; a colonial heritage which often implanted an entrepreneurial caste to take care of commercial and industrial activity; the extended family system which tends to dilute the Protestant work ethic that characterised the rise of capitalism in Europe; a largely non-monetised population and poor infrastructure which handicap business start-ups."

Persuad (1989:61) adds that the communal traditions hinder entrepreneurship that is based on individualism. Nevertheless, MSEs offer an excellent breeding ground for managerial and entrepreneurial talent and can be viewed as a starting point for industrial expansion (Page and Steel 1984; ILO 1986; Rietveld 1988; World Bank 1989; Hirschowitz 1991; Kirsten 1991). Furthermore, in developing countries where people with management skills are often scarce, small enterprises are preferable to large-scale because they tend to be less 'management-intensive' (Harper 1984:14–16; Arnold *et al* 1987:11). King (1996:16) notes that Kenya has been trying to encourage entrepreneurism by providing compulsory Business Education since 1985, even at the primary level.

Other arguments against small industries and informal sector enterprises often revolve around their dispersed nature, which is inherently inconvenient to planners and developers who find it easier to initiate and promote the establishment of one or two large industrial units rather than developing the same capacity through many smaller enterprises (Cable *et al* 1986:166). Once production units are established, governments find it easier to set regulations, monitor policies and control operations of a few large firms rather than many smaller businesses (Allal and Chuta 1982:2; Harper 1984:18). Nonetheless, this inconvenience is clearly outweighed by the benefits from their dispersed nature. A widespread, numerous and prosperous small business sector is more likely to be associated with dispersed employment opportunities and relatively equitable income distribution than a few larger firms (Browne 1978; Rietveld 1988; Stearns 1988).

Another strength of small-scale manufacturers is their ability to use available resources very efficiently (Arnold *et al* 1987:14). Empirical data collected by Harper (1984:15) suggest that the return on capital employed in small business is significantly higher than that earned in large ones. USAID (1985) notes that non-farm employment offers better returns on investment than agricultural employment. ILO (1986) and Thomas (1990:3) mention that small enterprises can increase savings and investments by local entrepreneurs through the more effective use of scarce capital.

Some opponents note that small-scale industries do not hold an interest for foreign investors and therefore developing countries do not gain foreign capital through this sector (Allal and Chuta 1982:2; Persaud 1989:63). Small-scale industries do earn foreign exchange through exports and help to save foreign exchange by using less imported machinery and inputs (Fundanga 1985:114; Steel and Webster 1989:64).

On the negative side, attempts to create export, or even regional, markets can be fraught with difficulties for small-scale manufacturing because production runs are small, and quality and quantity are often difficult to guarantee (Terry 1991b; Terry *et al* 1994). On the positive side, because the profits of small enterprises are not dependent on long production runs, the local, specialised needs of a particular area can be economically served by small manufacturers (Harper 1984:12; Fundanga 1985:114). Their flexibility, dynamism and a readiness to innovate enable them to adapt to market changes, to exploit specialised niche markets and to help diversify the manufacturing base (ILO 1986; Arnold *et al* 1987:13; CS 1994). Large-scale industries have made note of these positive aspects of the small-scale sector, and in the 1990s they are also placing greater emphasis on being flexible and specialised (i.e. 'flexspec').

In some countries, products made at the local level for local needs using low technology may be of lower quality than mass-produced goods, but they can also be less expensive, provinding goods and services to consumers with poor purchasing power (Arnold *et al* 1987; Lassort and Clavier 1989; King 1996). However, in Botswana locally-made products, made with raw materials sourced in South Africa, are often more expensive and of poorer quality, and have great difficulties in competing with cheaply manufactured items sent up from South Africa (SIAPAC 1991; CS 1994). This situation makes non-farm manufacturing geared to the local village market less attractive in Botswana than in other developing countries. It also emphasises the viability of rural crafts for tourists and the export market, because these are made almost exclusively from locally available materials and do not have to compete with South African manufactured products.

Regarding credit, national development banks, which often have no or few branches, are often biassed towards central government and large-scale projects (Dichter and Netter 1991:26). Lacking flexibility, commercial banks generally do not like to lend to small-scale entrepreneurs because they do not fit into the standard conditions for short-term lending and large loans (Lycette 1984:2; Dichter and Netter 1991:26; Tropin 1992:31). MSEs are often considered risky because they cannot offer physical collateral (Husbands and Dichter 1989:15; Thomas 1990:11; Brand *et al* 1993:282). Although default rates are often lower among small businesses than large ones, many banks continue to claim that small production units are not creditworthy (Stearns 1988:18; ODI 1990:3). In some countries, small-scale entrepreneurs are not aware of the available sources of credit or do not know how to apply for loans from formal institutions (Hirschowitz 1991:7&20).

To resolve this debate, some authors (Allal and Chuta 1982:1; ODI 1990:4; DBSA 1992; SANGOCO 1998:6) suggest that all three levels of enterprises plus agricultural production should be promoted within any one country. They feel that medium- and large-scale industries certainly have a role to play, but small-scale industries may contribute to economic and social development more effectively. By recognising that MSEs and the informal sector have much to offer, a business environment favourable to MSE investment and development can be created through the appropriate regulatory and macroeconomic policies and development interventions (Steel and Webster 1989). Through the provision of training, more choices and better access to credit, supporting institutions and markets, MSEs could increase their output and productivity (Grierson and La Towsky 1989:19; Toroka 1990:9; SIAPAC 1991:13; Creemers 1997:4). The next chapter highlights the situation for MSEs in Botswana, and Appendix 3.3 lists problems and interventions specific to Botswana, but also found in many developing countries.

2.5 HANDICRAFTS' CONTRIBUTION TO EMPLOYMENT AND INCOME-GENERATION

Historically, the craft sector has played an important economic and social role. Craft production, especially metalwork such as in tool and jewellery-making, was an ancient and widespread activity in Africa. For instance, bronze, brass and copper were used in Ethiopia as early as fifth century BC (Tessema 1990:14). Ostrich eggshell beads dating at least nine thousand years old have been dug up at archaeological sites in Kenya and in other areas of sub-Saharan Africa. Although the kiln and potter's wheel were introduced into Egypt from western Asia as early as the third millennium BC, neither were widely diffused outside North Africa. Moulding and coiling, along with sun-drying or firing in an open fire were the techniques found throughout the rest of Africa. Although clay pots were fragile and awkward in shape and weight, they were mass-produced and used widely for transporting commodities in trade, such as wine or oil from North Africa and salt from sub-Saharan Africa (Wickins 1980:87).

Besides fulfilling the need for containers for trade products, craft production was essential in pre-colonial times for many African countries as barter for subsistence products and in the ritual exchange of prestige goods (Etienne 1965:43; Campbell and Gron 1993:9). Textiles, especially, have been marketable commodities for many centuries playing the role of local currency in several African countries (Etienne 1965:43; White 1981:2; Weiner and Schneider 1989).

Probably most widespread was craft production for domestic use as part of daily life (Wickins 1980:87; Shaw and van Warmelo 1981, 1988; Campbell and Gron 1993:7; Shaw 1993; Thebe 1997). Baskets, typically of a utilitarian nature but also with considerable artistic merit, have been made from a variety of fibres and for a variety of purposes throughout Africa (Wickins 1980:100). Remains and imprints of baskets have been found in neolithic sites in Egypt from as early as 5,000 BC (Ebert 1977:69). Watertight beer baskets, sleeping mats and other woven items were traded by the Tembe-Thonga with the Zulu in the early 1800s (Cunningham 1987:264). Sieves and roofing mats were observed being used by the Khoisan as early as 1780 (Shaw 1993). Calabashes and gourds, which were frequently carved or etched, were especially popular among pastoralists as containers for milk, as well as for musical instruments (Wickins 1980:100). Wood was also used for the fabrication of storage containers, utensils and musical instruments. In southern Africa, leatherwork was the main clothing item in contrast to woven cotton textiles found throughout the rest of Africa (Schapera 1953:25;

White 1981:2; Seidman 1990:8; Campbell and Gron 1993:9; Setlhabi 1994:17). One skin product was both for domestic use and trade:

> "During the time I was in Bechuana country [Botswana] between twenty and thirty thousand skins were made up into karosses (fur blankets): part of them worn by the inhabitants and part sold to traders: many, I believe, find their way to China. The Bakwains bought tobacco from the eastern tribes, then purchased skins from it from the Bakalahari, tanned them, and sewed them into karosses, then went south to purchase heifer-calves with them." (Wilson and Thompson 1969:148)

Because craft products were mainly utilitarian, the full-time production of crafts was not very common, but was more often part-time or seasonal and made by household members rather than by craft specialists (Wickens 1980:105). In some places as cultural groups accumulated more material goods, certain people began to specialise in their work and became master craftspeople (Seidman 1990:74). Ancient craftwork was often gender-specific. For example, Ashanti women were responsible for spinning the cotton thread but only the men could weave (Etienne 1965; Wickins 1980:113). Skills were often passed on from generation to generation (Thebe 1997:17).

Today, the handicraft industry can be assumed to contribute to the process of development including the abatement of unemployment, underemployment and poverty, because of its labour-intensive nature (Upadhyay 1973; Nelson 1975:1; ICA 1977; Browne 1978:x; Melchers and Muller-Maige 1990:25; Haffajee 1994:39). Handicrafts can offer the possibility of productive absorption of labour that would otherwise be unemployable, clearly constituting both primary and secondary sources of employment in both urban and rural areas (Minkes 1952/53:158; Taussig 1980:3; Hasberg 1988:18; Chiromo 1990:21; Cohen 1993b:144). For example, in urban centres such as Bogota, Colombia, more than 40 percent of manufacturing employment is made up of people doing craftwork, while in Abidjan about a third of the labour force is involved in craft production (Allal and Chuta 1982:7–8). Ganslmayr (1985) estimates that 15 to 20 percent of the working population in developing countries is employed in this sector, and 30 to 50 percent of rural population has income from crafts. Out of a sample of 19 countries, 13 have at least one-fifth of their rural labour force participating in artisanal and craft activities as their primary source of employment (Allal and Chuta 1982; Kennedy 1988). In India, an estimated two million crafts people owe their livelihood to the export of handicrafts alone (Cable *et al* 1986:15). On the island of Madagascar, approximately 400,000 people engage in craft production – about ten percent of the active labour force (Randrianarivelo 1990:31). Likewise, in Togo, ten percent of the

active population (70,000 people) is estimated to be working in the craft sector (Rambert-Hounou 1990:96). In Kenya, the woodcarving industry alone is estimated to employ 60,000 carvers who are the breadwinners for some 350,000 dependents (Cunningham 1998:45). These figures and the other data listed in Tables 2.2 and 2.3 clearly prove the vital role that the craft sector plays in creating employment and generating income.

Besides providing primary employment in rural areas, traditional craft production also creates secondary employment during slack periods of the agricultural cycle (Taussig 1980:3; Standa-Gunda and Bond 1996:2; Thebe 1997:17). Studies conducted in western Nigeria (1966), Sierra Leone (1976) and Afghanistan (1971) concluded that 20 percent of rural males were engaged in handicraft cottage industries as a secondary source of employment (Allal and Chuta 1982:9; Kennedy 1988:24). In a study described by Hoddy (1989:14), rural Indian women stated that they most needed "round-the-year" employment. Through concentrated craft training efforts these women now have a viable economic activity for the slack agricultural period. In several places in Zimbabwe, rural women are primarily involved in farming and housekeeping, but craftwork is undertaken to obtain an important additional – and sometimes only – source of cash income (Jones 1987:68; Hasberg 1988:4&18). Correspondingly, some urban dwellers who work full-time in the formal sector supplement their income by making handicrafts or engaging in other informal sector activities. In some countries, the second job earns as much or more income than the formal one (King 1996:194). Knye and Keyter (1990:8) cite Namibia where 46 percent of urban women are economically active in the formal sector, and at least five percent of these obtain a secondary source of income by making and repairing clothes, catering or producing crafts. Chipenda (1990:83–84) notes that the war in Angola has forced many people to move into the cities and many women work with the men in factories. These same women supplement their income through the home production of crafts, especially utilitarian items such as basketry and pottery.

Overall, craft activities provide a productive use of spare time, and no matter how little time producers can devote to their craftwork, the ready cash from the sales is a real addition to their households (Logsdon and Glover undated:102; Upadhyay 1973:x; Benjamin 1981a:59; Pye 1988:7; van de Fliert 1989:8; Kuru 1997:2). One elderly widow with a large family in Zimbabwe who makes clay pots is a good example. From her part-time craftwork she could earn between US$100 and US$225 per month. After she began to sell regularly to the National Handicraft Centre, she managed to carry out substantial improvements at her homestead including the building of a three-roomed house (NHC 1990:8). For many African households, craft production has been vital to their economic

survival (CI 1985:24; Kuru 1997a:2). Van de Fliert (1989:8–11) describes a group of 20 female basketmakers who attended an upgrading course in western Zimbabwe. Of the 20 women, 18 were married and two were widowed. Of their 18 husbands, 10 were without jobs. The female participants had an average of 6.7 children each. Basketmaking was the major source of income for 12 of the women, agriculture for five, and selling grass and vegetables for two. During the course, the women clearly described the importance of their basket sales to their families, stating that the money was primarily used for food and other household expenses and school fees for their children.

The diversified, decentralised nature of craft production creates widespread employment opportunities, often to very remote areas where no other income-generating alternatives are available, thus contributing to income distribution and equity, and helping to stem the rural exodus to urban areas (Logsdon and Glover undated:102; Nelson 1975:4; Pye 1984:7, 1988:8; Ndjonkou 1986:81; Melchers and Muller-Maige 1990:25). Craft operations in remote areas often employ large numbers of women and minority tribal groups that have been historically difficult to reach (Taussig 1980:10; Hughes 1981:66; Hitchcock 1986:22; Mead *et al* 1990; NHC 1990:9; The Crafts Center 1998a:13). Craft production is particularly important for those rural households with little or no land or in areas where the agricultural productivity is low (Jones 1987:67; Hasberg 1988:2; van de Fliert 1989:4; NHC 1990:9; Parnwell 1992:13&19; Linnee 1994:2). A few negative aspects of introducing cash-earnings to a remote area are cited by Kuru Development Trust (Kuru 1995:14). The demands on the cash-earner's income by the larger extended family "often results in desperation." Increases in the abuse of alcohol and drugs, and other social disruptions often occur with the introduction of a cash economy.

Where forced migration has occurred, craft production can provide skills that can lead to sustainable livelihoods and help to generate income in an insecure situation. Smith (1996:1&3) and The Crafts Center (1998c:8–9) describe places where profits from crafts provide income to refugees and help to support humanitarian aid programmes. These activities occur at West Bank and Jordanian refugee camps for Palestinians, in Croatia, and in Kenya for Somalian, Sudanese, Ethiopian and Ugandan refugees.

The World Bank (1978:28) notes that within the non-farm labour market a certain level of skill and experience, such as found in the fields of construction and manufacturing (including handicraft production), acts as an important determinant of earning levels. Because of the skill level involved, incomes earned from handicraft production are at least comparable to, if not better than, farming, most other informal sector activities and

some formal sector jobs (Browne 1978:357; Kathuria *et al* 1988:v; Falconer 1991). This does not necessarily mean that the earnings from crafts are high, but they compare favourably with incomes from the alternative employment that craftworkers might realistically expect to hold (Muir 1989; Rutten 1990; Falconer 1991; Townson 1994). For example, in Zimbabwe, one appliqué sewing project provides the women workers with an income equal to the minimum urban industrial wage (Nesbitt 1989:37), and the sellers of baskets, pottery and brooms earn a "significantly higher" income than those who undertake petty trading of vegetables (Brand *et al* 1993:299&301). In Botswana, tapestry weavers in a workshop setting received an annual wage of P720 in 1977, while the median household wage at the time was estimated to be only P355 (Lewycky 1977:208). In many countries the income of craft households is above the poverty line and the national average (see Pye 1988:9–10 for a breakdown of Asian countries). For certain craft producers if there was no opportunity for craft production, the alternative would surely be unemployment and a zero wage (Browne 1978:359; Kathuria *et al* 1988:30 & 64). Loughran and Argo (1986:8) quote Russell (1983) when emphasising the importance of income from crafts for women:

> "The importance of handicraft earning lies not in the actual size but in the fact that women are assured cash in hand over which they have control... [Handicraft income can be considered as a] predictable and reliable element in the management of the family economy."

In contrast to these positive impressions, some people, even those who are working in the field of handicraft production or assistance, feel that the craft industry is of relatively low value. Taimni (1987:24) reports impressive figures on the handicraft industry's remarkable progress in India from the 1950s to the 1980s, and cites the sector's contribution to foreign exchange earnings. However, Taimni also says: "Unfortunately, these impressive figures mask the woeful reality of the miserable existence and exploitation faced by rural artisans." For India, apparently, the increased demand for handicrafts in both the national and international markets has not led to a corresponding rise in benefits to individual craftworkers (Cable *et al* 1986:108; Taimni 1987:24). Kathuria *et al* (1988:v) also conclude that despite higher than expected earnings in Asia from craft production, the returns to labour are very low, resulting at least partially in an insufficient number of young people entering the craft sector. For Africa, Maseko (1990:43) agrees, and says about Swaziland: "There is resistance amongst the young to handicrafts not only because of the poor financial return, but also because handicrafts is seen as for the 'old, uneducated and rural'." Basketmakers in Namibia also lament about

their children who associate basketmaking with being uneducated and show no interest in learning the skill (le Roux 1993). In contrast, two potters in South Africa state: "This tradition will never die. Youngsters are still keen to watch and learn as we once did" (ZWICCT 1993:113). The Kuru Development Trust in Ghanzi District of Botswana also note that many of the Ncǂakhoe young women are starting to make traditional crafts (Kuru 1995:14). Loughran and Argo (1986:38) come to the only conclusion possible on this subject: "increased returns to producers of handicrafts will alter the image of the sector and result in younger trainees."

Some authors also argue that the income benefits from craft production are not positive for all segments of society. While in some situations, crafts are a solid, dependable source of income, Dhamija (1981:1–2), Cable *et al* (1986:102–108) and Ramsay-Merriam (1996:1, 1998a:4) mention that women and children working in the field of crafts are often exploited. Sometimes women are slotted into work based on stereotyped gender roles, which are often very labourious and pay the lowest wages, while the crafts that provide the best income have become the exclusive province of men. Agosin (1985:15) describes people in Latin America who believe that women's handwork, such as lacemaking and needlework, has little value in terms of artistic expression. Toroko (1990:9) thinks that women are forced into activities using low levels of technology and technical skills because they lack the financial means and training to diversify the type and scale of their activities. Benjamin (1981a:59) and Kathuria *et al* (1988:36), however, argue that while some crafts were once practised by one gender alone, the discarding of taboos and certain traditional attitudes has opened new possibilities for women. In the final analysis, individuals must weigh the time invested in learning a craft skill and the effort expended in production against the potential rewards gained from crafts versus some other activity (Lewycky 1977:215; Dhamija 1981; Loughran and Argo 1986; Townson 1994:58; The Crafts Center 1996). In the end, some women may choose to continue craftwork, although not always highly remunerative, because it can guarantee some income without taking them away from their home responsibilities (Cable *et al* 1986:99; The Crafts Center 1998a:13). Others may choose to continue craftwork for different reasons, as Reinata Sadhimba of Mozambique states, "I'll never leave my ceramics because it has given me so much esteem as a woman." (ZWICCT 1993:59).

Some (Kathuria *et al* 1988; ODI 1989) believe that caution must be used when applying the term 'exploitation', because situations can vary dramatically from place to place. ODI (1989:2) suggests that social clause interventions, as part of national labour standards, should:

> "distinguish between poor labour standards which simply arise from the poverty of the country in question and those which are obviously discriminating and exploitative. There is danger, therefore, that too zealous an application of social clauses will intrude into what may be termed the genuine trade advantage of many developing countries – their abundant and cheap labour."

Nevertheless, certain international organisations (e.g. World Crafts Council, UNESCO, International Trade Centre, World Trade Organisation, The Crafts Center, Child Labour Coalition and RUGMARK-International) have been drawing attention to exploitative conditions since the mid-1990s, especially around the areas of forced and indentured child labour. Organisations such as the Fair Trade Federation are trying to increase consumer awareness about the importance of purchasing fairly-traded products that support living wages and healthy working conditions (Ramsay-Merriam 1998a:4).

Further on the subject of exploitation, some argue that craft producers are exploited by middlemen (Chiromo 1990:26; Bogatsu 1994:22). However, most middlemen actually have a legitimate place in the marketing structure, otherwise they would not be operating. While some traders may take very large margins and depress the income of producers, many provide essential and useful services for the producers (Hughes 1981:66; Allal and Chuta 1982:18). For many craft producers, marketing would be difficult if not impossible without the commercial middleman (Cable 1986:109&13; Kathuria *et al* 1988:16). To expect the average, rural, illiterate producer to understand the intricacies of the national market, let alone international, is naive (The Crafts Centre 1996). As Benjamin (1981a:59) states, "The reluctance of importers to deal with non-professionals is one of the main obstacles to direct marketing by the producers and explains why the latter still use middlemen as exporters."

Certain social benefits also come from the craft sector. Working in or near the home allows for more interaction with the family (Karsten 1972:20; Lewycky 1977:221). The independence that comes from self-employment offers the ability to be completely in control of one's own work (Logsdon and Glover undated:102; Brand *et al* 1993:281&284; Haffajee 1994:39). On the other hand, when producers work together in a group, either a formal production unit or an informal gathering, they derive benefits from the social aspect of the work (Weinrich 1973:7; Lewycky 1977:224; Dhamija 1981:14). The psychological benefits of having purposeful work cannot be denied when the alternative might be unemployment (Browne 1978:360; Chambers 1988a:13–17; Bernstein *et al* 1992:18). Haffajee (1994:39) cites an example for South Africa where

Operation Hunger established a craft division that became so successful many of the recipients of food-aid no longer needed the aid once they could sell their craftwork. Some types of craft production have been a useful and comparatively inexpensive means of training labour for industrial occupations, thus easing the transition from a subsistence society to an industrial one (Minkes 1952/53:159; Weinrich 1973:6). Handicrafts can attract participants to workshops and meetings where other development-oriented topics can be tackled, such as health and nutrition, childcare and literacy (USAID 1977; Loughran and Argo 1986:1). Under the right circumstances, craft production activities can provide and improve skills, general knowledge and ability, along with self-esteem and confidence (Lewycky 1977; The Crafts Center 1998b:8). All of these individual attributes – self-confidence, self-reliance, independence – can also contribute positively to a country at the national level.

Furthermore at a national level, craft industries can generate valuable foreign exchange through direct exporting of craft products and by sale of crafts to visitors in the country (Ela undated:39; Minkes 1952/53:157; Pye 1984:7; Ndjonkou 1986:82; Chiromo 1990:26; Parnwell 1992:9; Cunningham 1998:45). The extent of this valuable source of foreign currency can be illustrated by citing examples of the world demand for handicraft products. Benjamin (1981b:58) and Kathuria *et al* (1988:4) note that during the 1980s, the annual world demand for handicraft products was estimated at US$2,600 million with 37 percent of that figure supplied by developing nations.[4] Ganslmayr (1985) suggests that US$100 million worth of crafts are exported each year from the ASEAN countries. George Little Management notes that hand-crafted candles alone are a billion dollar a year business in the United Sates and are increasing in popularity; some of these entering the aromatherapy market, which did not even exist in the mid-1980s, but by 1996 hit the US$250 million mark (The Crafts Center 1998d:7). For other specific examples, in the 1970s in Iran, handicrafts, including carpets, were the largest export item after oil (Allal and Chuta 1982:19). In Kenya in 1989, *kikondo* sisal bags were the fourth most valuable export product after cut flowers, coffee and tea (Linnee 1994:2). The export value of the Kenya woodcarving industry alone is estimated annually to be US$20 million (Cunningham 1998:45). The World Crafts Council estimates that there are over 1,000 importers of foreign crafts in the United Sates alone, plus more than 35,000 retailers that

[4] The greatest demand is for leather clothing, which represents about 62 percent of all handicrafts sold on the world market. Other goods in decreasing order of turnover include: footwear, basketwork, tortoiseshell, pottery, jewellery, woodwork, metalwork and, finally, weaving. The retail turnover for basketry products alone in Great Britain was estimated to be US$90 million in 1986 (DECTA 1988:4–5).

sell these imported products (The Crafts Center 1996). One store alone at the Brookfield Zoo near Chicago generated a half a million dollars in sales, during its first year, from crafts of Peru, Ecuador and Chile (Engh 1998:6). Tables 2.2 and 2.3 provide some data from specific countries on the importance of crafts as an export commodity.

By all accounts this world demand appears to be growing and there should be considerable room for expansion in the market for crafts from certain countries in the years to come (Kathuria *et al* 1988:4; Pye 1988:viii; Parnwell 1992:9; Haffajee 1994:39; Cunningham 1998:45). Cable *et al* (1986:30) and Kathuria *et al* (1988:2) also note that the evidence from Asia indicates that handicrafts may be among the most efficient foreign exchange earners in the economy. Commercial crafts may require some state subsidies, but nothing significant as compared to other sectors that export. Furthermore, exporting not only benefits a nation. Several authors have also determined that the exporting clearly offers more hope to individual producers through expanded demand and usually better prices (Rutten 1990; Falconer 1991; FAO 1991).

From this section, clearly the craft sector does, and can continue, to make a positive contribution to employment creation and income generation in developing countries. Other contributions of the handicraft sector are described in the next sections.

TABLE 2.2 EXTENT AND DEMAND FOR AFRICAN CRAFTS

COUNTRY	NO. OF PRODUCERS	SALES TURNOVER (US$)	VALUE OF CRAFTS EXPORTED (US$)	CRAFTS EXPORTED AS % OF TOTAL EXPORTS
Kenya	35,000[1] 60,000[3]	3.0 million[1]	2.3 million[2] 20 million[3]	
Benin		2.0 million[4]		
Rwanda	117,000[5]			
Seychelles	250[6]			
Madagascar	400,000[7]			
Swaziland	55,000[8]			
Mozambique			100,000[9]	
Ethiopia	19,000[10]	2.5 million[10]		
Namibia		2.0 million[11]		

Notes: [1] number of producers in 1980; sales from roadside kiosks only, in 1980 (Bushan 1981:73); [2](Benjamin 1981a:59); [3] for the woodcarving industry alone per annum (Cunningham 1998:45); [4] for 1976 (Anon. 1981c:69); [5] for 1985 (Mukayiranga 1990); [6] for 1988 (Pierre-Louis 1990:30); [7](Randrianarivelo 1990); [8]not only producers, includes people who trade in crafts (Maseko 1990); [9]average export sales per annum between 1981 and 1984, but by 1985 export had practically ceased (Lee 1991:3); [10] for 1968 for parts of Ethiopia (Karsten 1972:132); [11]le Roux, pers. comm., 1998.

TABLE 2.3 EXTENT AND DEMAND FOR NON-AFRICAN CRAFTS

COUNTRY	NO. OF PRODUCERS	SALES TURNOVER (US$)	VALUE OF CRAFTS EXPORTED (US$ million)	CRAFTS EXPORTED AS % OF TOTAL EXPORTS
Taiwan[1]			3,040	
Hong Kong[1]			2,532	
China[1]	10 million		1,589	
India[1]	3.5 million	3 billion	1,537	18%
South Korea[1]			1,259	
Thailand[2]	1 million		300–1,000	0.1%
Mexico[1]			426	
Singapore[1,4]	1 million		346	
Philippines[1]	700,000		324	2.3%
Brazil[1]			206	
Macau[1]			194	
Pakistan[1]			157	
Malaysia[1,4]	1 million		113	0.3%
Indonesia[4]	1 million		100	
Sri Lanka[1]	177,000		44	0.7%
Nepal[1]	1.2 million		29	13.2%
Bangladesh[1,3]			3	30%
Barbados[5]		6 million		

Notes: [1] for 1984 (Kathuria *et al* 1988:5 and Pye 1988:6–7); [2] for 1984 (Pye 1984:7), for 1987 (Parnwell 1992:11); [3] Anon. 1990:1; [4] Bouchard 1981:60; [5] Rudder 1981:75.

2.6 CULTURAL ASPECTS OF THE HANDICRAFT SECTOR

In 1982 at a World Conference on Cultural Affairs, UNESCO developed the following definition for culture:

> "In its widest sense, culture may now be said to be the whole complex distinctive spiritual, material, intellectual and emotional features that characterise a society or social group. It includes not only the arts and letters, but also modes of life, the fundamental rights of the human being, value systems, traditions and beliefs." (cited by Parsons 1987:2)

UNESCO also emphasises the importance of 'cultural identity', with this term interpreted as "national identity for social development, nation-building and international cooperation" (Serkkola and Mann 1986:271). An anthropological definition of culture states that "culture encompasses the totality of human ideas and artifacts in a particular society at a particular time" (Parsons 1987:3).

In relationship to craft traditions and the 'modern' development of the craft industry, all of these definitions are important. It is also important to recognise that 'culture is a living thing': traditions and culture continually evolve (Nkunika 1979:53; Levy 1989:28; Hopwood 1994:1). They are not something permanently cemented at some fixed point in the past. As cultures evolve, they take aspects from the past, while absorbing new ideas from the present, often being influenced by contact with the outside world (Ela undated:40; Upadhyay 1973:3; Seidman 1990:50; Solway 1998:425). Some argue that contact with other cultures creates cultural dependency so potent that eventually the main stimuli for cultural development come from the outside (Erisman 1983:342). While outside contact is inevitable, it does not necessarily have to be negative, as examples from the world of handicrafts can show (Upadhyay 1973:3; Nkunika 1979:53).

Consideration of the cultural aspects of the handicraft sector is important for several reasons. Because most craft products were produced as material objects for specific purposes, they act as material representations of specific cultures (Nkunika 1979:49; Weiner and Schneider 1989; Campbell and Gron 1993). For example, the hunter-gatherer had to hunt to eat, and created the bow and arrow as a hunting weapon. Today, that hunting set physically represents a specific culture. A basket is another example. Agriculturalists grew their own food, such as millet. This grain needed to be winnowed so baskets were made from materials found locally. Baskets become physical representations of not only the farmers' economic conditions but also of their surrounding environment. The presence of these material objects can help to preserve precious cultural traditions, and to educate others about the cultural lives of certain people (Peterson 1984:5; Clason 1990:148–149; Kakombe 1990:80; Seidman 1990:51). Collecting craft objects and displaying them in museums and galleries are aspects of the craft sector that help in this important education process.

The handicraft sector helps to keep the culture of the past alive. Because much of the sector works with local materials, techniques and designs, crafts can strengthen local cultural traditions rather than disrupt them (Anon. 1981a:55; Mukayiranga 1990:20; Ngakane 1993:15). An opposing viewpoint suggests that culture can be 'lost' once it is brought into the sphere of market transactions. However, commercialisation need not be detrimental. The emergence of a market, including the growing interest in ethnic arts and crafts in industrial countries, is the principal factor behind the preservation and revival of often declining arts and crafts in developing nations (Jules-Rosette 1984:1; Cohen 1993a:2–3). By encouraging the production of handicrafts and placing a monetary value on them, producers themselves realise the importance of what they are doing, benefit

financially from their work, and thus carry on with production. Without this social and financial recognition, producers, who may no longer need the object in their everyday lives, would stop producing them (Schapera 1953:27; Levy 1989:29; Terry 1991b; Parnwell 1992:26; Cohen 1993a:2; le Roux 1993; Hopwood 1994:1).

In reverse, expressions of evolving culture can be incorporated into the production of new handicraft objects (Seidman 1990:58). At the same time, new techniques and materials can create change in the forms and culture itself, helping to mould and shape the ongoing cultural process (Nkunika 1979:53; Ichaporia 1982:12; Graburn 1984; Campbell and Gron 1993; Cohen 1993a; Mallet 1994:3).

Crafts can play an especially important role in the expression of cultural identity of individual groups (Jules-Rosette 1984; Weiner and Schneider 1989; The Crafts Center 1997:10, 1998b:8). As an example, Peterson (1984:6,1985:30) cites the Otavalan Indians of Ecuador who still wear their traditional clothing and radiate cultural pride and dignity. They have used their long-practised weaving skills to establish a craft industry that has preserved and strengthened their culture, while making them the most prosperous native people in Latin America. Another example comes from South Africa. Levy (1989:24–26) stresses the importance of beadwork and wall decorations in the lives of the Ndebele, especially as a vehicle of cultural identification after the tribe's defeat and dispersal in the late 1880s. She quotes Davison (1985:19) who suggests that:

> "it is significant that in reaction to being divided socially and geographically, a stronger consciousness of identity developed and was expressed in the material culture... [and] ...the beadwork fulfilled an increased need to express identity in dress when no longer living as a unified Ndebele community."[5]

Levy also mentions that the beadwork reflected the social status of women in Ndebele society, which was important in that it reinforced social traditions and values.

Caft production is also important and should be encouraged because of its relation and ability to strengthen national identity (MacKenzie and Taussig 1981:8; Weiner and Schneider 1989; Evans-Pritchard 1993). Weinrich (1973:4) believes that, "the main

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[5] While no research appears to have been conducted, one can postulate that Herero women might have chosen to retain their Victorian patchwork dresses (even though they are extremely hot and uncomfortable) for the same reason. Possibly after their dispersal from present-day Namibia to present-day Botswana, they felt a need to maintain an outwardly visible cultural identity.

distinction to be drawn is that artistic crafts are part of the national genius of the country and deserve saving from extinction or decay on these grounds alone, irrespective of their economic viability." Craft can represent a country's history, its traditions and its civilisation (Upadhyay 1973:x; Farine 1988:10). As the specific culture of a group changes, it is important to mark it in time, taking note of its form and progress. Most nations on earth have been shaped with artificial political boundaries. Within this ambiguous cultural structure, the country developing a national identity must accommodate the cultural identities of many different socio-cultural groups, including the so-called 'minority' cultures within its borders (Parsons 1987:4; Conteh 1990:115; Sokomba 1990:89). Crafts and art can help to build bridges between people of different cultural backgrounds (Hopwood 1994:1). In countries torn apart by war, cultural and economic activities might help to heal a nation. Lee (1991:16) notices that craft skills, which have been handed down for generations and "nurtured on a proud cultural identity that survives in the daily life of the people", are very much present in Mozambique.

The 'cultural' nature of a craft product lends itself to export-ability (Minkes 1952/53:157; ICA 1977; The Crafts Center 1997:10). The most marketable utilitarian objects are part of, and respect, the traditions of the place where they were made (Weinrich 1973:4; Bouchard 1981:61). In a study on the trade in traditional and small-scale 'culture' goods, Ho and Huddle (1976) noted that buyers with high incomes desire high-priced cultural items. The cultural aspect of a craft product can be exploited and lead to increased turnover. Some believe that this demand can create a situation in which Third World artists generate images of their cultures only for commercial purposes, possibly belittling their culture. However, Kennedy (1988:24) argues that craft producers do not simply respond to a ready-made external demand, but also help to create and perpetuate it.

In summary, the importance of the interrelationship between cultural identity and handicrafts should be recognised and exploited. Acknowledging the cultural significance of specific craft products promotes them as cultural commodities, while keeping a culture alive and vibrant, and in a state of continual transformation.

2.7 HANDICRAFTS' RELATIONSHIP TO THE TOURISM SECTOR

Tourism is said to be one of the fastest growing industries in the world (Cooke 1991; McIvor 1991; Parnwell 1992) and more than almost any other industry contributes to local value added, incomes and employment (UN and WTO 1978). Foreign visitors – both leisure and on business – are important contributors to the craft and curio market

worldwide. In recent years, concepts such as 'alternative tourism', 'ethnic tourism' and 'eco-tourism' have appeared, which emphasise tourism that is ecologically sound and usually on a smaller-scale than 'mainstream tourism'. Tourism can be especially positive when the needs of the local community and the country are considered, and when local people participate in tourist-related businesses and have a say in decisions regarding the tourists who enter their communities (Holden 1984; Murphy 1985; Travis 1985; de Kadt 1990; GOB 1990b; Egner 1991; Hitchcock 1991). Tourism development of this nature can create economic benefits and backward linkages through craft-related activities (Minkes 1952/53:157; Barnes 1992:14; Creemers 1997). At the same time, material culture awareness through craft exhibitions, demonstrations and sales can boost the experience of those seeking alternative tourism (Parnwell 1992:12).

Tourism policymakers and public relations experts should have strategies to present the image of a certain area or entire country to attract tourists. Beyond the ecological resources such as scenic beauty and wildlife parks, the ability to depict the 'national identity' of a country in a positive and attractive manner can bring great returns (GOB 1990b:1; Parnwell 1992:4). Historical, physical, social and cultural attributes can be promoted. Many governments have realised, or should realise, that their country's unique cultures, including craftwork, can be exploited as important tourist attractions, thus increasing foreign exchange earnings and public revenues (Minkes 1952/53:157; Peterson 1984:5; Kakombe 1990:81; Pierre-Louis 1990:28; PEER 1997:77). All aspects of the tourism industry can also potentially generate incomes and employment opportunities for residents, adding to the material well-being of a country and its people (GOB 1990b:2).

The production and marketing of crafts and 'tourist arts'[6] is a growing and increasingly important branch of the tourist industry (Cohen 1993a:1; Standa-Gunda and Bond 1996:2; Creemers 1997) and clearly an important source of convertible currency. International trade in tourist crafts was estimated to be US$2,600 million in 1981, with at least 37 percent of that figure originating in developing countries (Benjamin 1981b:58; Jules-Rosette 1984:15). For Kenya, a prudent estimate has valued handicraft purchases by visitors at US$5 million per annum or about US$5–12 per visitor (UN and WTO 1978:58; Benjamin 1981b:59). Tourists to Colombia are estimated to spend on average US$30 per person on crafts (Benjamin 1981a:59). In 1989 in Thailand, tourists spent an

[6] Graburn (1976:8) defines 'tourist arts' as ethnic art and craft products that are produced for an external audience, usually an audience that is unfamiliar with the culture and aesthetic criteria of the producer's society.

estimated US$1 million on "shopping" (equivalent to about one-third of total tourist expenditure) with "a significant portion" of this expenditure on handicrafts (Parnwell 1992:4). In Seychelles, tourist expenditure on locally made craft products forms about one percent of national revenues (Pierre-Louis 1990:28). In one game park alone (Hluhluwe-Umfolozi) in South Africa, Cremers (1997:2&3) notes that tourists spent about US$400,000 on curios in 1995/96, equal to about US$2 per visitor per day.[7]

Tourist trade can be a very important source of income for craft producers and for local craft middlemen and retailers (Loughran and Argo 1986:9; Chiromo 1990:26; Maseko 1990:43, Hitchcock 1991:162; Warren 1991:139; Cohen 1993b:144; le Roux 1993). When tourists spend money on craft products, "some of the economic spoils from tourism are being spread to peripheral and rural areas" (Parnwell 1992:5&9). As an example, at least two pottery groups in Zimbabwe have a regular market of visitors who pass their way to and from South Africa. Another group of women profit from the sales of the basketware to tourists frequenting Lake Kariba and the Bumi Hills area (van de Fliert 1989:4). The Department of National Parks and Wildlife has recognised the relationship between wildlife-based tourism and cultural tourism and is "sympathetic to the promotion of the craft industry" (CCZ 1989:4). In several Zimbabwean national parks, craft sale centres have been established by the parks department for producers to sell their own wares. Another southern African country is as an example showing the impact of a collapsed tourist trade. Members of Mozambique's wood cooperatives, who have considerable skills and good access to raw materials, say that their biggest problem in the 1980s was marketing when the tourist trade collapsed with the onset of war (Lee 1991:5).

Similar to the earlier point on any commercial sale of crafts, some argue that the tourist trade commercialises and downgrades the quality of traditional crafts with products reflecting what the tourist expects and wants, rather than an expression of true cultural or national identity (Nkunika 1979; Cohen 1988; de Kadt 1990; McIvor 1991). While the tourism sector can have an impact on crafts, it does not necessarily lead to poor quality products (Graburn 1976:13; ICA 1977:14; Parnwell 1992:26). Hasberg (1988:5), in a report on craft production in Binga District in western Zimbabwe, states that the utilitarian items made for local use are "rather clumsy and crude and decorations aren't nicely done." She further states: "Only usefulness and durability is of relevance to the villagers. Aesthetic aspects are only secondary to them." In contrast, she stresses the producers' recognition of the importance of good quality and attractive decorations when

[7] See Chapter 9 for estimates on craft expenditures in Botswana by tourists.

they make traditional crafts for the tourist and export market. Van de Fliert (1989:11) mentions that the quality of baskets for Bumi Hill tourists are superior to the baskets made for the local domestic market. Pierre-Louis (1990:28) emphasises the importance of tourism in Seychelles and points out that crafts must be produced to a particular high standard in order to meet the demands of the tourist industry. Furthermore, as mentioned in the previous section on culture, producers who no longer need certain craft objects in their everyday lives would stop producing them if no alternative markets existed, such as those developed through tourism (Cooke 1991; Terry 1991b).

In some cases, production for the tourist trade can in fact enhance experimentation and creativity along with quality (Graburn 1976:27; Jules-Rosette 1984:10; Cohen 1993b). Parnwell (1992:27) concludes that, "The effects of reorientating handicraft products towards a wider market... in some instances may be responsible for breathing new life into moribund industries." The business of tourism has increased the variety of craft products in Kenya (Nesbitt 1989:36) and in Swaziland (Loughran and Argo 1986:9). Jules-Rosette (1985:100) describes the specific situation of the women potters in Lusaka. When potters make clay pots for the beer-brewing industry, they are functional, not decorative. The need for standardization in size and shape when brewing beer, strictly limits creativity. In contrast, "individualization in ceramic work results from the tourist trade, where some variation is sought in figurine production" (Jules-Rosette 1985:100). Jules-Rosette (1985:101–102) goes on to describe the situation for one male potter: "His art was consciously produced for the African elite and tourists, and he took pride in craftsmanship and innovation." The same holds true for Malagasy producers as described by a craft promotion director in Madagascar:

> "Craft in general is becoming more and more of a form of art but unfortunately there is a lack of inspiration and creative originality... [craftsmen] follow what has been done by their parents... However there are a few inventive people who create new models. Contacts with western civilisation by means of mass-media as well as arrival of tourists in Madagascar has fortunately brought some change to design." (Randrianarivelo 1990:33)

For Ndebele beadwork in South Africa, Levy (1989:30) states that the initial interest in 'tourist' beadwork (e.g. necklaces) expanded eventually to include traditional beaded aprons and capes. This new interest elevated the beadwork to the level of 'art', by stimulating production and creating a mixture of innovation and traditionalism.

The development of a sound tourist industry can also increase demand for Third World crafts in the tourists' own countries (Page 1979:12; Parnwell 1992:2). Through tourism more western visitors are discovering developing countries for the first time and returning with crafts. This new international interest then continues 'back home'. Shops and boutiques in the western countries recognised this interest, as reflected by the expansion of 'ethnic' market outlets since the early 1970s (Anon. 1981a:55).

2.8 HANDICRAFTS' IMPACT ON COMMUNITY, FAMILY AND INDIVIDUAL PRODUCER'S STATUS

Several researchers have determined that the craft industry has had a positive effect on the social and economic well-being of certain rural communities and has established solid foundations for community development (e.g. Lewycky (1977) for Botswana, Browne (1978:6) for Ghana, Peterson (1984:5) for Ecuador, Cunningham (1987:266) for South Africa, the Crafts Council (CCZ 1989:3) and Gumbo (1990:74) for Zimbabwe, and le Roux (1993:2) for Namibia). A useful example is provided by the remote Kariangwe village in Binga District in Zimbabwe. About 500 Tonga women in three basketry clubs recognise that they contribute to the development of their village by sending their children to school with the money earned from weaving (Mwiinde and 27 weavers, pers. comm., 1989). One advisor to Mozambique suggests that handicrafts and other income-generating projects are needed to help rebuild "the fabric of communities which have been decimated by the war" (Lee 1991:12).

Many specific economic benefits can come to a community or village because of a nearby craft project (Lewycky 1977; The Crafts Centre 1996). With more available cash, consumerism will increase in the village, benefiting local shops, services and village-level enterprises. Wages or income from craft production are typically distributed within the nuclear family and often extended family, thus benefiting more community members.

Equally, increased income levels can help to improve living standards, including nutrition, housing and clothing, along with improved access to education systems and safe water (Mwiinde and 27 weavers, pers. comm., 1989; Durham 1997:3; The Craft Centre 1998:8). Sometimes emulation occurs where other villagers attempt to improve their living conditions when they see the craftmakers 'developing themselves' (Lewycky 1977:220). When craft producers work locally, they can readily participate in important village development activities and social functions.

Little is written on how craftwork affects the status of individual producers, families or family groupings. Historically, it has been noted that in areas where craftwork was specialised, the status of individual craft producers varied. For instance, the goldsmiths of the Asante and the blacksmiths of the Kongo and Yao had an honoured place in society. In contrast, other producers encountered contempt and poverty. For example, iron workers were looked down upon by the Wolof of West Africa and the Masai of East Africa (Wickins 1980:112). More recent evidence indicates that producers and their families are empowered at the local level because of craft's economic contribution to the household (Lewycky 1977; Cohen 1993a). Sokomba (1990:90) considers indigenous craftmakers and artists in Nigeria to be important members of their communities due to the very nature of their work. Simpson (1993) describes a family of mask-makers in Sri Lanka where the work has enhanced their respectability and status in the community.

Encouraging a positive identification for individual craftspeople, and families with producers, can enhance their individual development and the development of the craft industry. In countries that do recognise craft producers and artisans as national assets, a favourable environment is created for continually promoting and encouraging the handicraft sector (ICA 1977:19; Pye 1988:30).

2.9 HANDICRAFTS' ROLE IN FAMILY STABILITY AND MIGRATION

This thesis argues that handicraft production plays a role in the maintenance of family life and the reduction of rural to urban migration. When productive, income-generating activities are available in rural areas, family structures can remain stable and, all other things being equal, migration is reduced. When rural to urban migration has occurred, handicraft promotion can still play a role by providing opportunities to urban migrants.

As noted for the relationship between the craft sector and status, very little research has been undertaken on crafts' impact on family stability. One notable exception is Harper (1984:11), who found that small enterprises, including crafts, are often locally owned and controlled, and thus, "strengthen rather than destroy the extended family and other social systems and cultural traditions that are perceived as valuable in their own right."

More effort has been taken to examine the connection between productive employment, including small-scale entrepreneurship and handicraft production, and migration. Rural to urban migration can lead to urban expansion and eventually urban sprawl and restricted employment and entrepreneurial opportunities, among other problems (UN 1980b).

Because national officials are forced to address these acute urban problems, rural problems and development are often ignored (Lindsay 1985:6). Certain authors maintain that by addressing the problems of rural areas and by developing economic opportunities in the countryside, problems of urban migration can be reduced (Fundanga 1985; Lindsay 1985; Parnwell 1992:13; NPC 1995:160). Failure to establish the relevant policies and to facilitate the necessary plans and programmes at the rural-level can only lead to expanded urban migration. This thesis argues that the promotion of the craft industry can provide economic opportunities for rural dwellers and, thus, contribute to the reduction of rural to urban migration. This argument is supported in the literature (e.g. White (1981:1) for Lesotho, Allal and Chuta (1982:7) and Kathuria *et al* (1988:57) for several developing nations, Fundanga (1985:118) for Zambia, Chiromo (1990:21) for Malawi, Parnwell (1992:13&23) for Thailand, and The Crafts Center (1998a:13) for Mexico).

Once migration to urban areas has occurred, income opportunities for urban migrants, who may come with few marketable skills and little formal education, are crucial to reduce problems of urban squalor. Urban programmes of training and advice to self-employed entrepreneurs can be an answer, including the development of contemporary craft skills (Jules-Rosette 1985:82; Kathuria *et al* 1988:40; Nesbitt 1989:36; Halsti 1990:120). Urban migrants who already possess skills in craftwork are often able to adapt to their new urban economic life more easily than others. In Lusaka, for example, many women migrants possessed pottery and teaching skills gained from their earlier rural initiation practices. Once in the urban area, they could combine their ability to make pots with the lucrative brewing and selling of local beers and gins (Jules-Rosette 1985). When some of the women obtained further knowledge and advice about the urban buyers' market, sales expanded by tapping into the urban tourist and residents' market.

2.10 DEVELOPMENT POLICY AND INSTITUTIONAL SUPPORT FOR THE HANDICRAFT SECTOR

Few countries have yet to create appropriate and specific strategies and policies for crafts, even though they may recognise its development potential (ICA 1977:20; Allal and Chuta 1982:20; Creemers 1997:5). With very little information available on structure, income levels, productivity and employment opportunities, the handicraft sector is prone to being ignored by policymakers (Neck 1981:64; Boon 1989:75; Rambert-Hounou 1990:113; Vencatachellum 1990:152; Standa-Gunda and Bond 1996:2). The small size and isolation of craft enterprises and individual producers, and a lack of organisations representing them, have made it almost impossible for them to influence government policy (Kathuria *et al* 1988:2; Melchers and Muller-Maige 1990:24; The Craft Center

1996). However, as Bouchard (1981:62) states, "Given the number of jobs that [handicraft] promotion can generate, it should be an integral part of national development plans (and policy) and listed among the priorities for international aid." Allal and Chuta (1982:34) suggest that the first step in policymaking must be to define the MSE and craft sectors properly so that measures can reach these diverse sectors. Kathuria *et al* (1988:52) feel that craft policies and programmes should be formulated at local levels and integrated into district or regional development plans, rather than being derived from macro-level economic planning and integrated only into national development plans.

Some individual ministries within one country may have their own policies, but often these conflict with each other (Ela undated:40; Nelson 1975:13; Kathuria *et al* 1988:52). Policies that enhance small-scale production overall, may often be incompatible with policies needed for the traditional and artistic crafts. For example, attempts to apply modern technology to local traditional crafts may jeopardise their authenticity and value based on their uniqueness (Ela undated:41). Similarly, the push for large-scale export production has, in some countries, proven to be detrimental to the hand-crafted nature of the craft items (Kathuria *et al* 1988:52). Fiscal and tariff measures may actually discriminate against very small enterprises or be unsuitable for their practical needs (Lewycky 1977:15; Allal and Chuta 1982:31–32).

Specific exemptions may be the most useful, such as allowing duty-free imports of raw materials and equipment (Harrell-Bond 1981:8; Allal and Chuta 1982:36). Policy measures creating raw material banks for micro-production units and individual producers would eliminate the inaccessibility to foreign exchange, which is a major problem in certain African countries (Allal and Chuta 1982:37). Administrative procedures could be simplified to help craft firms when it comes to forming companies or cooperatives, and obtaining the services of promotion, training or credit institutions. In relation to training policies, Dhamija (1981:3) says gender distinctions that place women into lower paying positions should be eliminated. She feels that any 'traditional' male job can be done by women if the opportunity and training are made available.

Allal and Chuta (1982:36) also suggest that minimum wage structures should be examined in light of low productivity and earnings in the craft sector. Any policy that increases the productivity and income-earning capacity of craftworkers would narrow the urban–rural wage differential in some countries and thus slow down rural to urban migration. This author would disagree, believing that although craft producers should get the best possible return for their work, minimum wage restrictions in some places may increase the final price of craft products to the point that they become unsaleable. Products that cannot be sold will not increase productivity or jobs.

Apart from a few notable exceptions,[8] many countries, including Botswana, have no specific systematic programming or institutional structure for the promotion and development of the handicraft sector (Loughran and Argo 1986:43; Rambert-Hounou 1990:113; Terry 1990b:44–45; Lee 1991:7). Many African and Latin American countries do not have institutional facilities for promoting the exports of handicrafts. More often the case is a myriad of agencies and projects that engage in overlapping promotional and development activities, often in an uncoordinated fashion (Weinrich 1973:29; Allal and Chuta 1982:38; Pye 1988:29; Terry 1991a, 1991b).

These agencies may be government or non-government, profit or non-profit orientated, and local or foreign. In some countries, such as Malawi, Swaziland, Togo, Madagascar, Namibia and Botswana, certain ministries or institutions have the responsibility to promote micro-scale enterprises and handicrafts along with small-scale modern sector industries (Chiromo 1990:21; Maseko 1990:42; Rambert-Hounou 1990:113; Randrianarivelo 1990:34; Terry 1990b:44; Terry *et al* 1994), even though the strategies for their promotion may be very different (Allal and Chuta 1982:38). In other countries, such as Seychelles, craft development responsibilities may fall under a ministry concerned with overall national development (Pierre-Louis 1990:28). Though high-powered, these ministries are typically inundated with numerous other tasks often perceived to be more important. Placing craft development under ministries responsible for culture and/or social affairs is a third option for other countries such as Zimbabwe and Zambia (Gumbo 1990:74; Kakombe 1990:79), while in countries highly dependent on tourism, such as Mauritius, the tourism ministry is responsible (Noziac 1990:37).

Even for countries that have some agencies or programmes to promote crafts, the existing framework is often unable to reach widely-dispersed, numerous and diverse small enterprises and individual producers (Harrell-Bond 1981:3; Allal and Chuta 1982:42; Peterson 1984:6). Paradoxically, these conditions that often lead to the creation of unique, highly marketable items are the very ones that make technical or marketing assistance, and self-organisation by producers so difficult (Cable *et al* 1986:166; The Crafts Centre 1996). While the craft sector provides benefits to individual producers, and their families, communities and countries, a more coordinated effort could increase the sector's contribution. Appendix 2.1, which outlines some of the sector's problems, reinforces the need for the sound development of policies and institutional support.

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[8] In Zambia, for example, the Department of Cultural Affairs under the Ministry of General Education and Culture coordinates at least eleven cultural, non-profit organisations including two which are responsible for the promotion, preservation and development of arts and crafts in the country. (Kakombe 1990:80–81). In Togo, the Superior Crafts Council, established in 1982, is charged with the supervision and coordination of all activities aimed at promoting crafts and for issuing relevant statements and recommendations concerning all craft-related issues nation-wide (Rambert-Hounou 1990:113).

3. SETTING OF THE STUDY: THE REPUBLIC OF BOTSWANA

3.1 PHYSICAL RESOURCES

Three characteristics of the physical resource base of Botswana are particularly notable: the mineral wealth, aridity and wildlife resources. All three factors have implications for the handicraft industry. Botswana's diamond wealth, which dominates the economy, allows the government to support small-scale enterprises in a way that most other African countries could not even begin to emulate (Perrings 1988:10; Hansohm and Shiimi 1995:6; Tsie 1996:600&613). Botswana's aridity is a major limitation on agricultural productivity, which makes the promotion of off-farm, income-generating activities so crucial. The wildlife of Botswana links directly with the handicraft sector as raw material for production, and by attracting tourists who then buy handicrafts.

The Republic of Botswana covers an area about the size of France in the centre of the Southern African Plateau astride the Tropic of Capricorn (Map 3.1). Botswana's landlocked position north of South Africa and its small, widely dispersed population greatly limit the country's industrial and exporting capabilities (FGU 1978:4; Jones 1988:7; UNIMEDIA 1997:5). Remoteness from population centres restricts opportunities and creates transport and marketing difficulties for most craft producers.

Botswana's geological base, covered predominantly by a mantle of Kalahari beds, is particularly rich in minerals, including diamonds, copper, nickel, gold and coal (Silitshena and McLeod 1989). In addition, semiprecious gemstones, mainly agate and carnelian, are exploited in limited amounts for jewellery manufacturing.

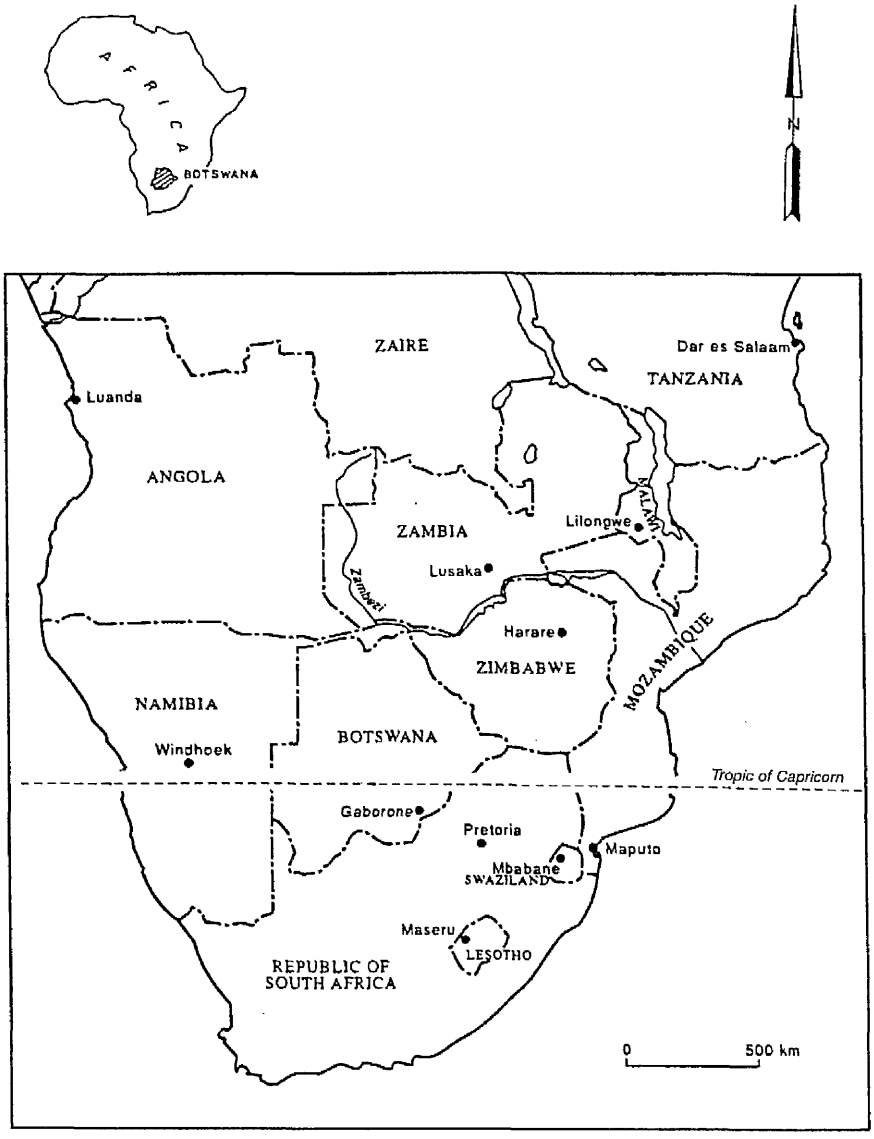
The climate is subtropical with the rainy season usually occurring between November and March. The average rainfall is less than 500 mm per annum, varying from 650 mm in the north-east to 250 mm in the extreme south-west (Andersson 1970). Botswana is plagued by long drought periods, averaging about nine years in duration, which affect both the arable and livestock sub-sectors (Tyson 1979; BCC 1992a; Valentine 1993). Even in good years, rainfall is unreliable and highly erratic making arable agriculture very risky. Less than five percent of Botswana's land is considered arable, with most of this

in the freehold farming areas of the east (MFDP 1991:5). Botswana is also characterised by a shortage of surface water. Groundwater resources vary significantly in quality and are difficult to exploit economically due to the deep sand mantles. The potential for water-intensive land uses, such as irrigation, is restricted to the east and north (Arntzen and Veenendaal 1986). Climatic conditions have little direct impact on craft production, making the craft sector eminently suitable as an income-generating activity in Botswana.

Flora and fauna resources are of primary relevance to the handicraft industry. The vegetation of Botswana is primarily savanna (i.e. grasslands with a more-or-less developed tree layer) of varying density (Map 3.2). The southern Kalahari is characterised by arid shrub savanna and bush savanna dominated by Acacia species, while the central and northern Kalahari range from open shrubland to woodland conditions containing mainly broadleaf species. Eastern Botswana has open woodlands of varied composition occurring in the south, and woodlands and occasional shrublands found in the north dominated by Colophospermum mopane (*mophane*). In the north, on Kalahari sands, shrublands and woodlands occur, with such species as Terminalia sericea (*mogonono*), Lonchocarpus nelsii (*mohatha*), and Acacia and Combretum species. The better watered areas are dominated by Baikaea plurijuga (*mokusi* teak), Pterocarpus angolensis (*mukwa*) and Ricinodendron rautanenii (*mongongo*) woodlands. The potential for processing domestic timber is small, therefore the exploitation of the wooded areas remains limited to small industries including the craft sector (FGU 1978). *Mophane* is the main hardwood used in woodworking, while the most important softwoods include *mogonono* and Commiphora species (*mokomotho*).

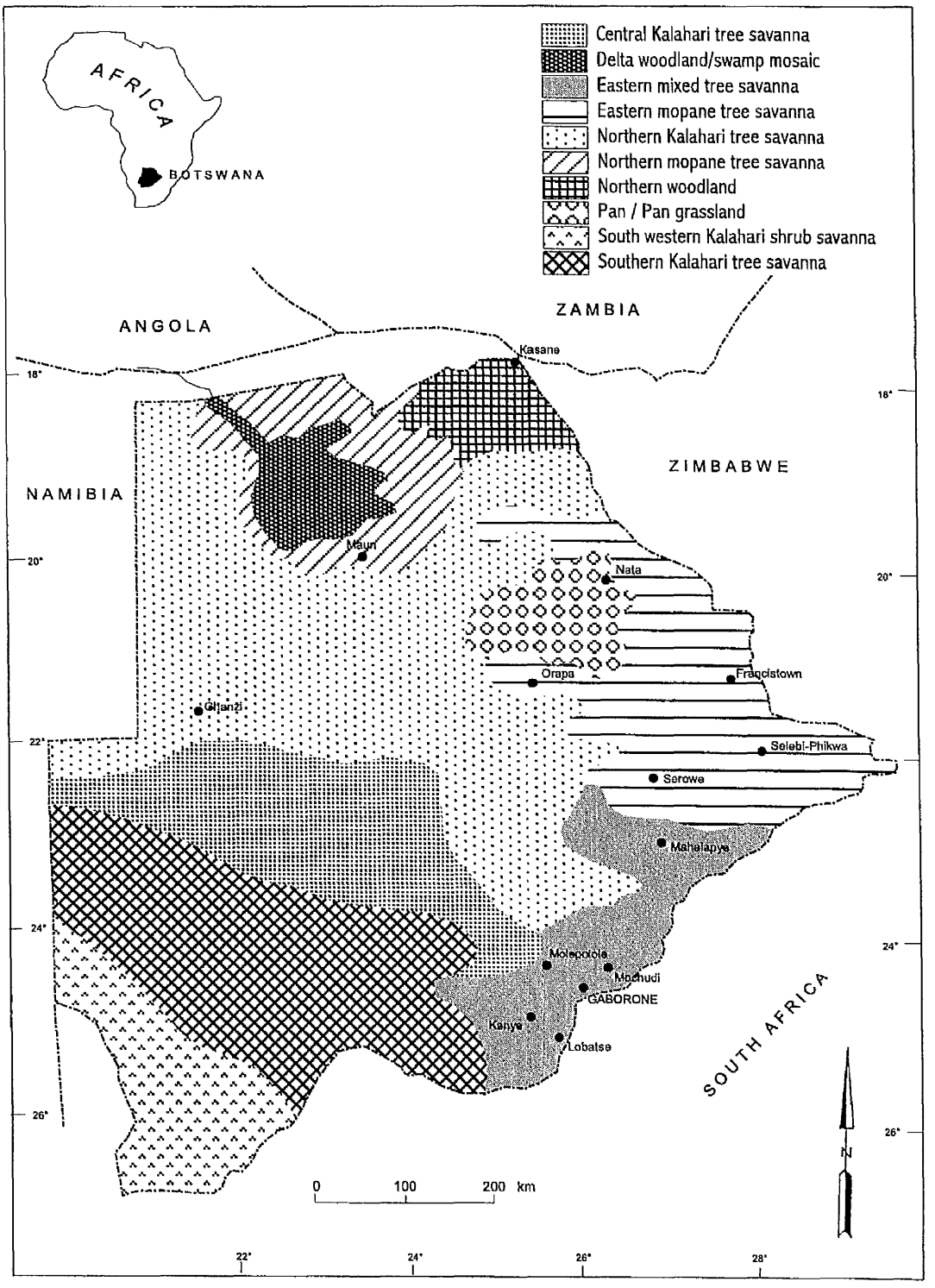
The Chobe River system in the extreme north and the Okavango Delta in the north-west are characterised by a complex mosaic of vegetation types, including riparian thicket, floodplain grassland and swamp communities (FGU 1988a). Extremely useful species for handicraft production occur here, especially Hyphaene petersiana (*mokola*) palm, Phragmites australis (*lethaka*) reeds and Cyperus papyrus (*koma*) (Terry 1984c, 1987a, 1988f, 1990c). Overall, the location and availability of different plant resources have a direct bearing on the location and type of craft production (see Maps 3.2 and 3.3 and Appendix 4.9).

Map 3.1 Botswana's Location Within Southern Africa



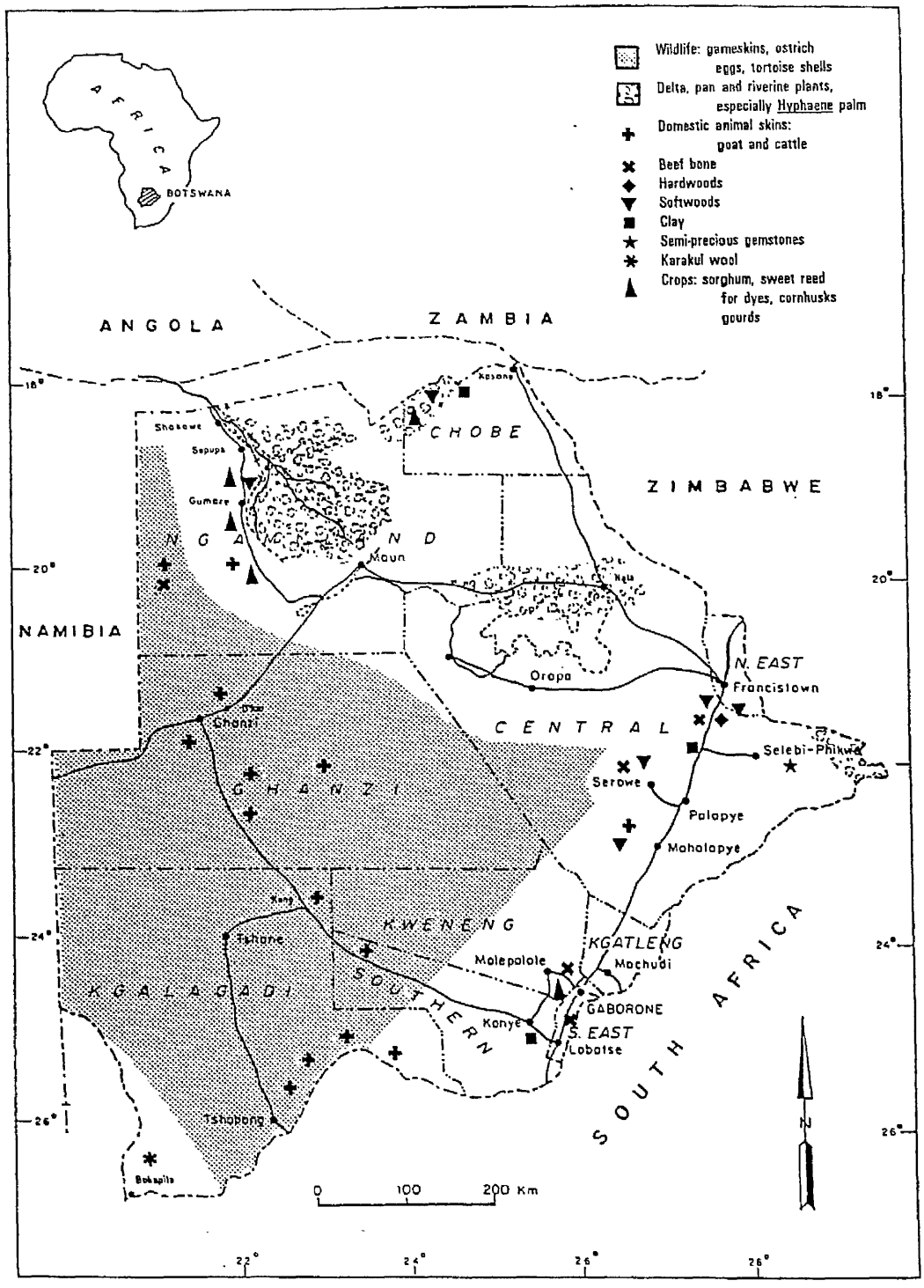
Source: Silitshena and McLeod 1989:4

Map 3.2 Vegetation in Botswana



Source: FGU 1988b:16; Silitshena and McLeod 1989:60; Barnes 1998:23

Map 3.3 Location of Natural Raw Materials Used in Craft Production



Source: compiled from observation and the thesis survey work

Botswana is richly endowed with a variety of fauna. More than 17 percent of Botswana's land area has been set aside for three national parks and five game reserves. In addition, about 11 wildlife management areas and 159 controlled hunting areas have been designated for wildlife use (FGU 1988a; MFDP 1991, 1997). Tourist game-viewing, hunting, and meat, skin and craft production provided gross value added of some P53 million in 1991 (Barnes 1998:241). Wildlife utilisation is an important part of rural household incomes, particularly in very remote areas (MFDP 1991:303, 1997:312). Government promotes investment in wildlife utilisation schemes to increase the economic opportunities for rural people (MFDP 1991:306), with handicraft production a potential important component.

3.2 PEOPLE

3.2.1 Composition

The people of Botswana are called 'Batswana' and one person is called a 'Motswana'. More specifically, the present population comprises eight principal groups making up the majority tribe called the Tswana, and twelve so-called minority tribes (Table 3.1). The national language of Botswana is Setswana, while English is the official language and used in most government and business affairs. Other languages continue to be spoken, especially in the remote areas, but none are officially recognised.

The Tswana, mainly living in the eastern, east-central and southern parts of the country, are one of the three major divisions of the Bantu-speaking people believed to have come to southern Africa from the north around 1500 years ago.[1] The so-called minority groups are a heterogeneous assortment of people and include the earliest inhabitants of Botswana, the hunter-gatherer tribes called the Bushmen, San or Basarwa.[2] The

[1] See Tlou and Campbell (1984:58–59) for a detailed diagram over the period 200 to 1700 AD tracing the origins of the Tswana and Kgalagadi. Other sources on Botswana history include Schapera 1953, Sillery 1974, Parsons 1982, Parson 1984, Morton and Ramsay 1987 and several articles in *Botswana Notes and Records*.

[2] The Bushmen do not like the term Basarwa because, "Once you call me a Basarwa, you're saying I am not a Motswana." The term San is also considered derogatory in some places, although it seems to be gaining acceptance more recently (Kuru and WIMSA 1999:6). Most of the Bushmen would prefer to be called by their individual tribal name in their own language (K. Komtsha and A. Campbell speaking at

Bushmen now live in small communities in west-central and north-western Botswana, with few still practising their traditional hunter-gatherer life styles. The Kgalagadi, 'the people of the great thirstland', were one of the original divisions of the Sotho-Tswana people and are actually made up of five different groups (Tlou and Campbell 1984:68). The Kalanga, closely related to the Shona of Zimbabwe, mainly live in the north-eastern corner of Botswana and are the largest so-called minority group. The Yei, Subiya and Mbukushu people originated in central Africa and now occupy areas throughout northern and north-western Botswana. The Herero settled in Botswana in 1905, following the German 'campaign of extinction' in South West Africa (Namibia), and now reside mainly in the north-west.[3] Approximately ten percent of the population is formed by Whites, Asians (Indians) and Coloureds (people of mixed race). These groups are mainly concentrated in the two major urban areas of Gaborone and Francistown, and on farms in Ghanzi District and the Tuli Block on the eastern border.

Official government policy claims that ethnic divisions are not important and tribalism is not a political feature of Botswana (DIB 1984; B&T Directories 1989:11). Some conflicts do exist, however, and the Bushmen remain the most marginalised group in all aspects of social and economic life (Good 1993; Hitchcock 1995). According to Solway (1998:438), "the Kgalagadi as a whole are subordinated to multiple regimes of power." While more powerful than most of the other minority tribes, the Herero have generally not assimilated because of strong ties to their native Namibia (GOB and UNICEF 1989:12–13). The Kalanga, as the largest minority group, continually attempt to keep their language and culture alive despite discouragement from the Tswana-dominated central government. Tsie (1996:601) feels that the fact that "the Botswana state is a capitalist state embodying important interests of the dominant classes or fractions thereof

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a rural development conference in Gaborone in Nteta and Hermans 1992). However, realising the difficulty of this, they are searching for a new general term in which they could be referred by outsiders. Meanwhile, many state that they prefer to go back to the old term 'Bushman' until they select a new name (Hardbattle, pers. comm., 1992). Most reject vehemently the term 'Rads', which is rapidly becoming the most common term used, taken from the acronym 'Remote Area Dwellers' (RADS) in use from the Remote Area Development Programme(RADP). Because of the situation being in flux, 'Bushman' and 'Bushmen' will be used consistently throughout this thesis.

[3] In the late 1990s, many Herero chose to be repatriated back to Namibia.

is beyond dispute. The bureaucratic elite in Botswana is powerful and generally effective in formulating and executing development policy."

While tribal groupings, officially, may not be a feature of political or development policies, they are significant for the cultural and economic aspects of the handicraft industry. Certain craft activities such as basketry or leatherwork are carried out by specific tribes based on long-standing traditions. As a generalisation, traditional crafts are produced by the minority tribes, while introduced, contemporary craft production is the domain of the Tswana.

TABLE 3.1 BREAKDOWN OF MAJOR ETHNIC GROUPS IN BOTSWANA (1992)

GROUP	ESTIMATED POPULATION
Tswana	900,000
Kalanga	110,000
Kgalagadi (Kgalagari)	80,000
Bushmen (Basarwa)	45,120
Herero (Mbanderu)	40,000
Yei (Koba, BaYeyi)	31,000
Europeans	18,000
Mbukushu	18,000
Pedi	4,000
Subiya	2,000
Nama	1,500
Balala	1,500
Ndebele	1,000
Teti	600

Note: Census data do not cover ethnic affiliation. Therefore, this table is derived from estimates made by Hitchcock (1992:10) "based on a combination of ethnographic observations, census data, and projections from the 1956 census."

3.2.2 Population

The most recent census, conducted in 1991, found the *de facto* population of Botswana to be 1,326,796 (including 15,677 non-citizen residents) with about 43 percent under the age of 15 (MFDP 1997:11). An annual growth rate of 3.48 percent occurred over the ten-year period of 1981–1991 (CSO 1991b:2). The population estimates for 1997 and 2003 are 1,533,000 and 1,780,000, respectively. The population density is expected to increase from 1.6 persons per square kilometre in 1981 to 3.1 persons by the year 2003. Although this is one of the world's lowest average population densities, most people are concentrated in the east, with 50 percent of the population within 100 kilometres of the capital, Gaborone, in 1991 (MFDP 1997:11).

The urban population as a portion of the total has increased from 16 percent in 1981 to 24 percent in 1991 (CSO 1991b:3).[4] Gaborone has more than doubled its population since 1981, increasing from 59,660 to 133,468 with an average annual growth rate of 8.4 percent. Rural-urban migration is expected to continue due to low productivity in the rural areas, and real and perceived income and employment opportunities in the industrial and mining sectors in the urban areas and elsewhere (FGU 1978; Tumkaya 1987:113–114; Tsie 1996:604&609).

Since the first identified HIV/AIDS case in 1985, Botswana has experienced a rapid spread of HIV/AIDS, which will logically affect the demographic profile of the country. From the 1995 sentinel survey and the 1996 CSO intercensal population projections, it is estimated that 12.8 percent (180,000) of the general population is infected. The prevalence rate among the sexually active age group (15–49 years) was estimated to be between 23 and 25 percent in 1997 (MFDP 1997:402; EIU 1998; Stegling 1998:14). While the Botswana government in its National Development Plan 8 (NDP8) document (MFDP 1997:11) suggests that Botswana's population "is growing rapidly as a result of high fertility and declining mortality rates" and "infant mortality is declining and life expectancy is increasing", other sources note that life expectancy stood at 61 years in

[4] Following the 1981 census, an urban area was defined as "a settlement of 5,000 or more people, with at least 75 percent of its labour force in non-agricultural occupations" (CSO 1991b:3).

1993, dropped to 47 in 1998, and may drop further to 41 by the year 2005 and to 33 by 2010 (New York Times 1998; Stegling 1998:14).

The average national household size was 4.98 in 1986, and 4.63 in 1994, while the urban average was 4.02, and 5.33 for rural areas in 1986 (CSO 1988b:6, 1995:5). About 40 percent of urban households and nearly half the rural households are headed by women (CSO 1988a). For this thesis, gender is important to consider because a greater percentage of craft producers are women and many producers are the heads of their households.

3.2.3 Settlement Patterns

The spatial organisation of economic activity and the settlement pattern of the Tswana has been traditionally nucleated. The Tswana, unlike the Nguni people of south-central Africa, do not live in dispersed homesteads but in compact villages of various sizes (Fair 1981:4). At the centre was the settlement nucleus – the village – while the agricultural lands were within a few hours of walking distance and the cattle-posts a few days. A few weeks walking distance were the hunting zones (Palmer and Parsons 1977:115).

Seasonal migration occurred because of this settlement pattern. From approximately November to June during the agricultural season, the majority of people – especially the women – lived away from the villages, staying at the lands. According to Schapera (1962:11), older boys would be found almost permanently at the cattle-posts. In some cases non-Tswana groups (e.g. Yei) have adopted the Tswana settlement pattern, but others (e.g. Mbukushu) live in scattered homesteads close to their fields. For rural development work, including handicraft advisory services, advantages and disadvantages occur with both settlement patterns. During the non-agricultural season, Tswana producers are readily accessible in their village settings (MacKenzie and Taussig 1981:25). A good agricultural season creates a situation where producers are scattered all about, making them difficult to find for meetings, buying sessions or training programmes. Non-agricultural extension work can virtually shut down during a good cropping year. Conversely, non-nucleated settlement patterns create difficulties for reaching producers year-round, but once individuals are found an extension officer knows they will be in the same location throughout the year.

Since the late 1980s, a decline in seasonal movement between villages, arable lands and cattle-posts has been reported throughout Botswana, and some people also have a fourth place of residence – 'in town' (MFDP 1991:9; Lesetedi 1992:160). Notably, the two different sets of households – rural and urban – should not be considered as discrete entities. They remain linked through any movement of household members between one location and the other, and through income transfers (Perrings *et al* 1992:18).

3.2.4 Cultural Identity and Crafts within Botswana

The unique settlement pattern of the Tswana and the importance of cattle in the lives of so many people are only two aspects of culture of the Botswana nation. The late President Seretse Khama recognised the importance of a cultural identity when he said: "a nation without a past is a nation without a soul." The Setswana notion of culture stresses heritage from the past, akin to the English usage of 'popular culture' or 'folk culture' rather than 'high culture' (Parsons 1987:3). In Setswana the word for culture is *Ngwao* and a popular slogan is *Ngwao ke Boswa* meaning 'culture is inheritance'. A basket-weavers' group in Ngamiland has taken the name 'Ngwao Boswa Craft' expressing the idea of 'let's keep our culture – our past – alive'.

By 1978, Botswana officially recognised the importance of culture by setting up the Botswana National Cultural Council (BNCC) (see Appendix 3.1 for a description of this organisation and other relevant advisory organisations for the craft sector). The importance of preserving and learning from cultural traditions was noted along with the need to recognise the significance of culture in relationship to development, education and economic conditions. The BNCC's constitution defines culture, as follows:

> "Culture means the expression by the people of Botswana of their attitude to life, particularly from the point of view of their traditional past, through the media of music, drama, language, literature, dance and the visual arts and crafts and includes the study and recording of these attitudes and of the history, systems of thought and customary practices of the people of Botswana." (Parsons 1987:4)

In Botswana, culture has been most often expressed in words, through the language and, especially, in song (Lewycky 1977:234) and through cattle-owning activities (Solway 1998:430). Material culture is another important form of culture. What people do and what objects they use are the base of the handicraft sector. Traditional crafts have all originated from the work that different groups do. The next chapter will describe the crafts that have developed from the different work and traditions of the agricultural, pastoral and hunter-gatherer groups in Botswana.

For the contemporary craft industry, which caters mainly to foreigners, cultural representations of Botswana are important because they can make a contemporary craft piece look 'African'. Something that represents Africa is much more attractive to tourists or expatriate residents than something that looks like it could have been made anywhere in the world. Aspects of Batswana cultural life can readily be incorporated into contemporary work (Lewycky 1977).

Handicraft production as a channel for cultural representation and creative expression is really only in its infant stage in Botswana. The possibilities are endless, and only through active encouragement of handicraft development will this vehicle for cultural expression reach its full potential.

3.3 ECONOMIC BACKGROUND

At the time of Botswana's independence in 1966, Botswana was one of the poorest countries in Africa. The per capita annual income was about P60 (then equivalent to US$80).[5] Infrastructure and communication systems, excepting the railway line running from the south-east to the north-east, were almost non-existent. The government was dependent on foreign aid, mostly from Britain, and with independence this too had an uncertain future (GOB 1982b). Just after independence, a favourable weather cycle,

[5] Since 1976, Botswana has had its own currency called the 'pula' (meaning rain or blood). There are 100 'thebe' in one pula. Originally introduced at the same par value as the South African rand, the pula is now pegged to a basket of international currencies including the rand. In the late 1970s, its value stood at US$1.20. At the start of this thesis survey work in 1990, P1.00 was equal to about US$0.43 and £0.29.

discoveries of diamonds and copper-nickel, the renegotiation of the SACU customs agreement,[6] and the maintenance of a stable, democratic political environment allowed the new country to take enormous strides (Tsie 1996).

During the first quarter-century of independence, Botswana experienced a remarkable social and economic transformation. The provision of a wide range of services, including potable water, schools, health facilities and rural roads, raised living standards for the whole population (Tsie 1996:605). At independence, approximately 25,000 people were employed in the formal sector and an equivalent number in the mines in South Africa. By 1992, employment in the South African mines had dropped to less than 18,000 and domestic formal sector employment had increased to an estimated 224,800 (CSO 1993a). The Botswana mining sector represented only two percent of the Gross Domestic Product (GDP) in 1967/68, in comparison to half the GDP in 1988/89. Over the first 25 years, the GDP growth averaged about 13 percent per annum in real terms (MFDP 1991:12&18; Love 1994:72). Real GDP per capita (based on the *de facto* population) was approximately eight times higher in 1988/89 than in 1966. This record has been not only the best in Africa, but the best GDP growth performance in the world (Lewis and Sharpley 1988:1; Hodd 1991:59; World Bank 1994, 1996). Until 1977, beef was the chief export product, but since then diamonds have been the main foreign exchange earner (Tsie 1996:600). Since the mid-1970s, Botswana has been one of the highest recipients of foreign aid in the world in per capita terms, largely due to its ability to maintain a stable, liberal, democratic system of governance in an otherwise politically unstable region dominated by *apartheid,* and its pragmatic stance in the wars of national liberation in southern Africa (Love 1994:82; Tsie 1996:612; UNIMEDIA 1997:2&5).

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[6] SACU is the Southern African Customs Union, a customs agreement first negotiated in 1893 and later re-negotiated in 1969 between the member states, Botswana, Lesotho, South Africa and Swaziland. Tariffs on imports and exports between SACU countries and overseas countries were established, but no tariffs were applied between SACU nations. Revenues from tariffs are shared between member states. Botswana's share grew from P74 million in 1971 to P853 million in 1992 (Jeffries 1994:4). While SACU income was the largest single source of revenue for the Botswana government up until 1982, the reality of SACU has bound Botswana to South Africa, stifled local markets, and deterred trade with other SADC countries.

The Botswana government has generally managed its economic good fortune very well. For example, Botswana has produced budget surpluses every year since 1984 (Harvey 1992:4; EIU 1998). Through careful spending of diamond rents, sound investments, a large build-up of foreign exchange reserves and vigorous attempts at diversifying the economy, government appears to have largely avoided the effects of 'Dutch Disease', as experienced for example by Nigeria and Zambia (Harvey 1992:1; UNIMEDIA 1997:2–9; EIU 1998).[7] However, one negative aspect of this strong economy, which hits craft producers and marketers, comes in the form of a strong currency. The strength of the pula against neighbouring currencies often makes it difficult to compete against cheaper crafts from other southern African countries (Dunn 1994:38; Gjern, pers. comm., 1999). The Botswana craftspeople can only maintain a competitive edge by producing the best quality and unique items.

The fieldwork for this thesis took place in the early 1990s – at the start of the second quarter-century of Botswana's independence – and all the data on the handicraft sector pertain to that period. There have been a few new developments in the economy since 1991, which are mentioned below, but generally the trends in Botswana's economy have followed the macro-economic planners' predictions at the time of the study's start, and any changes over the period 1991 to 1999 have not had any impact on the craft sector.

During the beginning of the second quarter-century of Botswana's economic history, Botswana has continued with an open economy and the promotion of a free enterprise system with minimal government intervention (Hodd 1991:59). The predicted real GDP growth during the seventh national planning period (National Development Plan 7 (NDP7) for 1991 to 1997), averaging 4.7 percent per annum, did occur, reducing the annual average in real terms over the entire post-independence period to around six percent per annum (MFDP 1991:55, 1997:17). This remains one of the highest sustained

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[7] Some detractors argue that Botswana has not completely avoided this scenario. Love (1994:71–75) points out that the nominal pula-rand exchange rose 24 percent between 1981 and 1989 due to the growth of the diamond sector, which effected the agricultural sector negatively by creating price disadvantages to farmers that led to a general decline in agriculture. He feels that attributing variations in agricultural output only to drought and related policy responses by government as an oversimplification. In contrast, Harvey (1992:8–11) argues that the real exchange rate was not driven up and remained very stable between Botswana and South Africa.

rates in the world. The GDP at the time of the thesis survey work was about P10,000 million and P7,644 per capita in 1990/91 (CSO 1993b; MFDP 1997:18). This grew to P11,444 million and P7,863 per capita by 1994/95 prompting the World Bank to re-classify Botswana as a middle-income country (Tsie 1996:600; MFDP 1997:18). The value of the mining sector (dominated by diamonds) during the survey period remained fairly constant, around P3,860 million. The trade/hotel/restaurant sector and the manufacturing sector grew from P1,412 million to P1,840 million, and P480 million to P520 million, respectively, between 1990/91 and 1994/95. In contrast, the value of the agricultural sector dropped slightly from P496 million in 1990/91 to P473 million in 1994/95. Signs that the economy is beginning to diversify are apparent from the drop in the mining sector's share of GDP from about 50 percent in the mid-1980s to about 34 percent in 1994/95 (MFDP 1997:18).[8]

During the mid-1990s, Botswana's top four exports were: diamonds, vehicles, copper-nickel and meat products; followed by textiles, hides and skins, soda ash and live animals (MFDP 1997:21; EIU 1998). In 1994/95, vehicles replaced copper-nickel matte as the second major export commodity (MFDP 1997:20; EIU 1998). Diamonds' average annual contribution to total exports was 76 percent during the period 1990 to 1995, but dropped from 79 percent in 1990 to 67 percent in 1995 due to the addition of assembled Hyundai vehicles to the export market in 1993 (MFDP 1997:20; UNIMEDIA 1997:2&5). Volvo manufacturing started in 1998 (EIU 1998). In 1994, non-traditional exports (all goods other than diamonds, copper, nickel and beef) accounted for a fifth of Botswana's export total and were valued at about P1,200 million (UNIMEDIA 1997:2). Botswana's overall balance of payments has been positive throughout the NDP7 period. In late 1996, foreign exchange reserves were at P18 billion, giving Botswana 30 months of import cover of goods and services (MFDP 1997:59).

Generally, real government revenues and grants are on the decline while real expenditure and net lending have continued to rise, albeit at a slower pace. However, the share

[8] 1994/95 is the latest year for which national accounts estimates are available at the time of finalising this thesis in 1999.

proportion of expenditures going to rural areas as compared to urban areas, especially during the main drought years of 1983/84 and 1986/87, actually declined. In 1988/89, 'development expenditure' comprised only 45 percent of total government expenditure (Love 1994:78). Very little increases in government revenues are expected in the NDP8 period for 1997/98 to 2002/03 (Jeffries 1994:5&7). In light of these rather stagnant predictions, the level of government expenditure on infrastructural projects and rural development programmes is likely to be reduced in the upcoming years, so that government can maintain a balance between non-investment recurrent expenditure and non-mineral domestic revenue (Tsie 1996:613&614; MFDP 1997:112). Furthermore, if the spread of HIV/AIDS continues at the rates observed in the mid-to late-1990s, Botswana's sound economic growth and development prospects may be seriously compromised. This would be due to a number of factors, including: skilled labour force reduced through death, reduction in the productivity of labour, and serious social and economic impact on household livelihoods. The high budgetary costs of containing the disease and caring for the sick also divert resources that could have been used for development (MFDP 1997:75; Stegling 1998:5&14).

The national average annual cash income per household was P2,809 in 1985/86, and since the average household size was 4.98, cash income per person can be estimated at P564 for 1985/86 (CSO 1988b:5). In 1993/94, these figures were P9,997 and P2,159, respectively, with the average household size being 4.63 (CSO 1995:5).[9] Table 3.2 compares household incomes in urban and rural areas for 1993/94, which are the most recent available data at the time of finalising this thesis.

[9] These national figures represent a nominal per household income growth rate of 15.2 percent per annum, but with inflation removed the real growth rate per annum is 4.3 percent. Comparison of this growth rate figure with the real GDP growth of six percent per annum over the post-independence period indicates that national economic growth was better than household income growth.

TABLE 3.2 HOUSEHOLD INCOMES PER ANNUM (in pula for 1993/94)

	DISPOSABLE CASH INCOME		DISPOSABLE INCOME*	
	MEAN	MEDIAN	MEAN	MEDIAN
Urban (towns)	18,298	8,812	20,521	9,703
Urban (villages)	8,775	5,165	10,517	6,540
Rural	5,294	2,400	7,694	4,998
National	9,997	4,470	12,191	6,373

Source: CSO (1995:5)

Notes: *Includes disposable cash income and in-kind income (e.g. own produce, gifts).

The 1993/94 Household Income and Expenditure Study (HIES) also indicates types of enterprise activities, in order of frequency, conducted by households in Botswana (CSO 1995:90). At the national level the top activities included: 31.8 percent of households brew and sell beer, 19.4 percent work as hawkers/vendors, and 16.7 percent rent out property. Among urban town households the first three activities in order of frequency were property rentals, hawking/vending and beer-brewing, while for urban village households the order was beer-brewing, property rentals and hawking/vending. The ordering for rural households was: 1) beer-brewing, 2) hawking/vending, 3) selling gathered/caught products such as wild plants and fish, 4) selling craftwork, and then 5) property rentals. Because of the relatively poor conditions for agriculture in Botswana as mentioned previously, the sale of crops ranks eighth (out of 17 activities) for rural households, while the sale of livestock-related products (e.g. milk and eggs) ranks tenth, and livestock sales rank eleventh.

Although the agriculture sector remains an important source of food, income, employment and capital formation, the role of the sector has declined, and there has been a substantial increase in households in rural areas that do not grow crops or raise livestock, from 29.2 percent in 1981 to 42.8 percent in 1991 (CSO 1991c; Deloitte & Touche 1996:12; MFDP 1997:227). For those that do farm, the success of arable agricultural production as a source of cash income is highly dependent on access to draught power and on the vagaries of climate (Landell-Mills 1970:80; Dorloechter 1989:50; Groth *et al* 1992:13; Tsie 1996:604). In times of good rains, the production of

arable crops will usually exceed total requirements and farmers will sell (and sometimes export) their surplus. Ironically, during good years another problem often arises, that of large-scale post harvest crop loss due to inadequate storage methods (GOB 1990d:143). During dry years, severe problems occur with almost total crop failure and massive amounts of grain needing to be imported (Landell-Mills 1970:80; Opschoor and Kagthi 1982:28; MFDP 1997:229). During drought years, farmers increase their sales of cattle to abattoirs, because of lack of grazing and cash to buy foodstuffs. However, since the progress of the drought cannot be easily predicted, sales to abattoirs are often done reluctantly and late, until the condition of the animals has greatly deteriorated, resulting in comparatively low returns (Bank of Botswana 1987:29; Solway 1998:437). Inevitably, the cattle population, which is affected by drought more than smallstock, is reduced because of deaths during the drought years and reduced births during post-drought years (Opschoor and Kagthi 1982:28). Inequalities caused by climate conditions are further exacerbated by unequal expenditure in support of arable production in comparison with livestock production. Love (1994:78) notes that from independence to 1985, the cumulative total of development expenditure was 3.34 times higher for livestock than for arable investment.

Cattle ownership has always been a very important aspect of the cultural life of the Batswana people, and has provided milk, ploughing teams for arable agriculture, and in-kind medium of payment for services rendered and bride-price. However, cattle have only been really economically important for households owning more than 40 head, and economically efficient for those with more than 5,000 (White 1993:40 ff & 66; Deloitte & Touche 1996:12&17; Solway 1998:427–432). Cattle distribution has always been uneven and has become more so over the years, with the growing commercialisation of cattle farming (MFDP 1991:240; MFDP 1997:227).[10] Among rural households in 1981 and 1991, 51.5 and 67.5 percent, respectively, did not own any cattle (CSO 1991c). In 1993/94, 56.6 percent of all households did not own any cattle (CSO 1995:114). With

[10] Love (1996:80–83), Tsie (1996:601&610) and Solway (1998:428) note that the pre-colonial and colonial state promoted a form of capitalistic development that favoured the growth of "cattle accumulators", who were mostly drawn from the traditional aristocracy (i.e. chiefs and headmen) and the new elite consisting of senior civil servants, politicians and the very educated.

the few exceptions of some Herero, Kalanga, and Kgalagadi craft producers, most of those surveyed for this study fall into the non-cattle-owning category or only own a few beasts.

Certain government policies (most notably the Tribal Grazing Land Policy (TGLP) of 1975), the creation of the National Development Bank (NDB) in 1964, and the Beef Protocol between the Botswana government and the European Union (EU) appear to have ultimately exacerbated this uneven distribution instead of improving rural poverty and environmental degradation.[11] TGLP divided land into communal, commercial and reserve areas. While grazing rights on traditional cattle-posts are not exclusive, those who can afford to drill their own boreholes receive *de facto* rights to the water and the surrounding grazing resources. TGLP was meant to enhance proper management and use of land to avoid overgrazing by relocating the large cattle owners so that pressure on communal areas would be reduced. Fifty-year leases were introduced on some tribal (communal) land, creating some 300 ranches and re-zoning them for commercial purposes. Against the spirit of the policy, many large-scale farmers remained at their productive boreholes on tribal land and obtained TGLP ranches. The NDB facilitated the growth of cattle accumulation by providing credit to drill more boreholes, acquire freehold farms and buy more breeding stock. The New Agricultural Policy of 1991 encourages the fencing of communal grazing land by those who can afford to do so. All these circumstances have created dual grazing rights in both commercial and communal areas, overstocking, overgrazing and the dispossession of land from minority groups such as the Bushmen, Kgalagadi and Balala.

The recent GATT agreement has given rise to concern about the future of Botswana's beef industry, and recognises the need to be more competitive on the world market (Deloitte & Touche 1996:12). Additional problems occurred more recently with the outbreak of cattle lung disease in 1997 in Ngamiland where over 300,000 head of cattle had to be eliminated, almost exclusively in communal areas, to prevent the disease from

[11] Various authors support these conclusions, and have been drawn on for the information in the rest of the paragraph, including: Hitchcock 1988; MFDP 1991:461; White 1993:61–65; Peters 1994; Deloitte & Touche 1996:16; Tsie 1996:601–614; MFDP 1997:229&333; Solway 1998:430&437.

spreading into commercial areas (MFDP 1997:17&228). This problem had a two-fold impact on the craft sector: it created a dearth of cattle hides causing a sharp increase in hide prices, negatively effecting tanneries and leather-workers (Kuru 1997a:3), and because the rural people were compensated with substantial amounts of cash for their cattle losses, craft production declined for a year or two because producers did not feel the need to earn more money (Gjern, pers. comm., 1999).

The Botswana Incomes Policy has noted that standards of living in rural areas often vary considerably in line with the conditions found for agriculture. From the early 1970s to the late 1990s, the uneven income distribution pattern has been more or less stable. For example, the Gini coefficient rose from .52 in 1975 to .55 in 1985/86, but declined slightly in 1997 to .537 (MFDP 1997:24).[12] In 1974, 45 percent of rural households had incomes equal to or below the Poverty Data Line (PDL), while by 1985 this figure had increased to 64 percent (CSO 1991a). In 1985/86, the poorest 40 percent of the population earned 10.7 percent of the total national income; the next 40 percent earned 27.8 percent, and the richest 20 percent earned 61.5 percent of the total income. The corresponding figures for 1993/94 are 11.6, 29.1 and 59.3 percent respectively for the three categories (CSO 1995:6). It should be noted however that income disparity between male- and female-headed households is quite significant especially in urban towns, and this seems to have worsened. In 1985/86 the median disposable cash income for male-headed households was almost twice as much as female-headed households, but by 1993/94 the discrepancy was more than twice as much (MFDP 1997:25&91).

In summary, despite Botswana's generally healthy economic performance and high per capita income, the record regarding income distribution is mixed (GOB 1984:1; Perrings 1988:2; Harvey 1992:11–12; Rempel 1992; UNIMEDIA 1997:2). Income distribution remains unequal, there was a poorer distribution of cattle during the 1980s and 1990s

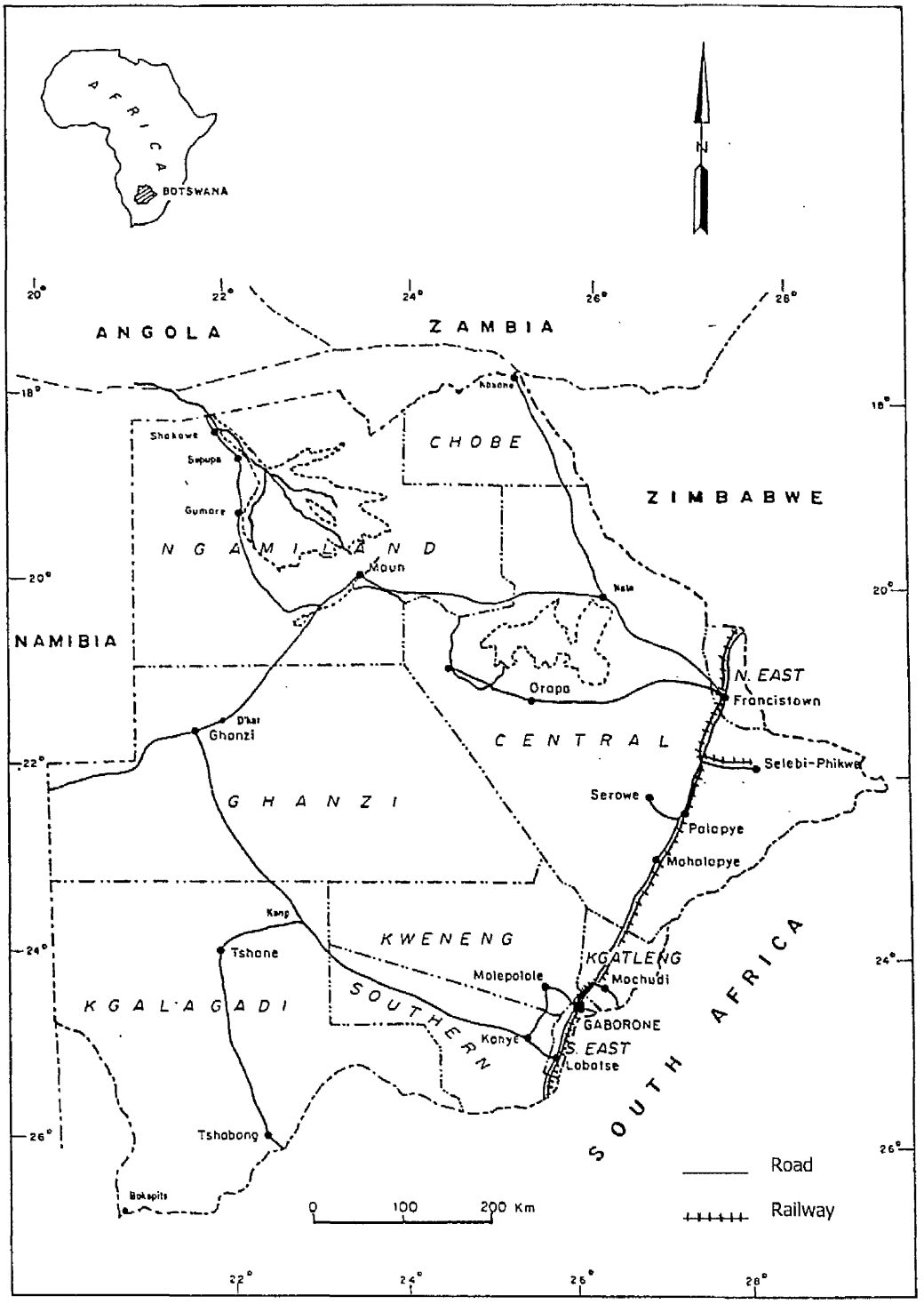
[12] The Gini coefficient is an indicator of the inequality of income distribution with 0 being equal and 1.0 meaning total inequality. In a sample list of 25 countries (UNDP 1991), Botswana ranked sixth with Brazil fifth, and Jamaica first, indicating that Botswana has a relative high disparity in income by world standards. It should also be noted that there is a difference between national and rural area only figures. The HIES study, as mentioned above, reports a Gini coefficient of .55 for 1985/86 while examining urban and rural areas. In contrast, the 1986 Bank of Botswana study, which only examines rural areas, reports a Gini coefficient of .73 (Bank of Botswana 1987:33).

drought, and many rural people remain poor, especially female-headed households (IAE 1985:16; Alexander 1991; Harvey 1992:11–12; Tsie 1996:603; Solway 1998:427). While both urban and rural formal employment has grown substantially, there were many retrenchments, especially in the construction industry, during the economic slowdown that began in 1992 and has continued throughout the 1990s (Tsie 1996:607&613; MFDP 1997:55). Government extended its services to rural areas through a combination of feeding programmes, a destitute programme, labour-based drought relief projects and agricultural input, and old age pensions were introduced in late 1996 (Harvey 1992:11–12; Perrings *et al* 1992:18; MFDP 1997:437&438; Solway 1998:426–427). While this level of support was critical for many people who would have literally starved if support had not been provided, it did not come close to bringing rural households up to subsistence levels (IAE 1985:37; Tsie 1996:603; MFDP 1997:91). Furthermore, as Tsie (1996:605) notes, "the peasantry prefers the creation of viable employment opportunities in the rural areas to on-and-off drought relief measures, no matter how effective they may be in ameliorating human suffering." As a result, employment creation must continue as a policy priority, and more emphasis must be placed on a better spatial distribution of income-earning opportunities (Rempel 1992:1; Tropin 1992:29; MFDP 1997:90–92; World Bank 1997:8). Both points are important justifications for investigating the value of craft development programmes in Botswana.

3.4 NATIONAL-LEVEL ADMINISTRATIVE STRUCTURE, DEVELOPMENT PLANNING AND IMPLEMENTATION AND THE HANDICRAFT SECTOR

The national framework of development planning and implementation can significantly influence the prospects of handicraft development in Botswana. The country is divided into ten different districts (Map 3.4) and has nine District Councils. Besides playing an important role in general district-level decision-making, in at least two districts, local councillors have sat on the boards of non-government handicraft development and marketing organisations. At the village level, Village Development Committees (VDCs) are overseers of most social and economic decisions. While the effectiveness of VDCs varies considerably between different villages, no village-level development work, including handicraft projects, can begin without direct consultation with VDC members.

Map 3.4 Republic of Botswana with District Boundaries



Source: MFDP 1991:2

Of nine central government ministries, four have relatively important links to the handicraft sector. The Ministry of Commerce and Industry's (MCI's) Department of Industrial Affairs (DIA) promotes the development of industry and the transfer of industrial technology (DIA 1992a:3; MCI 1992:1). Policy analysis and industrial project appraisal fall under the responsibilities of the Policies and Programmes Coordinating Unit, while the Industrial Development Policy forms the basis of all decisions (GOB 1984). The Industrialisation Support Services (ISS) division implements and coordinates all industrial policy incentives offered by government to encourage investors to invest in new industries or to expand existing ones (DIA 1992a:4).

One of DIA's responsibilities includes addressing any issues concerning handicraft development and marketing. Most of these activities fall under the mandate of DIA's Integrated Field Service (IFS), which is responsible for most government activities related to small-scale industry production, promotion, and technical and management training, including improving the performance of existing businesses, providing assistance to prospective entrepreneurs and leasing out factory shells (DIA 1992a; IFS 1992; Hansohm and Shiimi 1995:6&7). IFS administers the Training and General Support Fund (TGSF), which is used in a variety of ways to support small-scale enterprises, including: conducting feasibility and marketing studies, gathering and disseminating information, running seminars and training workshops, and supporting promotional activities (DIA 1992a:8). Recently, IFS has focussed some of its attention on Bushmen removed from the Central Kalahari Game Reserve by running training courses at the New Xade settlement in blacksmithing, carpentry and candle-making (Gjern, pers. comm., 1999).

In theory, IFS is responsible for undertaking these activities for handicrafts, but in practice any efforts have always been dependent on the personal interest of those individual IFS officers who think the handicraft sector is worth supporting. Other than providing TGSF funding for some craft training courses run by non-government advisors, the craft sector has received little attention. One notable exception has been DIA's Lekgaba Centre in Francistown, which identifies, trains and develops local pottery entrepreneurs (DIA 1992a:11) (see Appendix 3.1).

District IFS officers, along with other district-level Production Development Committee members, are major decision-makers and monitors for the government's small-scale Financial Assistance Policy (FAP). FAP is the centrepiece of Botswana's industrial development incentives and provides grants to rural entrepreneurs to help them start or expand their productive enterprises.[13] However, few craft producers have taken advantage of the FAP scheme. For example, only 23 of the 531 projects approved in 1991/92 were craft-related (DIA 1992a). Reasons for this may include information not reaching many rural producers, misunderstandings about the requirements, lack of the five to 15 percent producer contribution needed to receive the grant, and lack of collateral to obtain loans from NDB or commercial banks to meet the contribution (IAE 1985:10). Furthermore, for craft production, start-up capital for equipment is often less important than training and marketing assistance.

The Trade and Investment Promotion Agency (TIPA) falls under MCI and is meant to be a "one-stop service for investors" by acting as the focal point for all trade and investment activities (GOB 1984:7). Two activities of TIPA are potentially relevant to the handicraft sector: provision of an advisory service to potential investors, and promoting Botswana's exports. TIPA has been chronically understaffed, bogged down in bureaucracy, and has appeared to take little interest in the promotion of Botswana handicrafts. Even when craft products from specific groups are represented at overseas trade fairs by TIPA staff, little effort is allegedly made to provide information on the products or to arrange follow-up contacts or orders. Because of TIPA's inefficiencies, a review took place in the mid-1990s, and restructuring will occur during the NDP8 period to make it more independent of MCI, and to allow it to concentrate on investment and export promotion initiatives. A new One-Stop-Agency (OSA)will also be formed within MCI to focus on the expedient provision of support services such as necessary grants and permits, and the provision of industrial land, factory premises, power and water (MFDP 1997:164; UNIMEDIA 1997:5).

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[13] As the FAP scheme is relevant to the handicraft sector and is a uniquely designed system in southern Africa, it is described in some detail in Appendix 3.2.

Several NGOs and parastatals link closely with MCI to further the aims of small through large-scale industrial development (Tsie 1996:606; MFDP 1997:151&152). These are described in Appendix 3.1.

The Department of Wildlife and National Parks (DWNP), which also comes under MCI, concerns itself with handicraft production when wildlife resources are used. DWNP issues hunting and trophy dealer licences, which are needed for the procurement and trade of skin products, and sets hunting quotas and bans on certain species.

The Remote Area Development Programme (RADP) under the Ministry of Local Government, Lands and Housing (MLGLH) oversees most government interventions regarding social development and economic activities for the Remote Area Dwellers (RADs) and manages the Economic Promotion Fund (EPF).[14] Funding from this scheme is used to start productive projects, provide training to start or enhance productive activities, and help RADs who apply for FAP grants but cannot generate their portion of the capital expenditure. The RAD department, along with Botswana Christian Council, has also sponsored one study on handicraft production, training and marketing for RAD craft producers (see Terry 1991b).

The third ministry having involvement in the craft sector is the Ministry of Agriculture (MOA). The Department of Forestry and the Agricultural Research Department have been actively involved in the Hyphaene palm cultivation trials for the basketry industry The ministry's Hides and Skins Extension Officers provide advice and training on the skinning and tanning of domestic animal skins. MOA also runs district-level Rural Training Centres, which are occasionally used for craft courses.

[14] The term RADs was defined in a 1978 workshop on remote area development as all Botswana citizens who live outside the traditional village structure in a geographic or socio-economic sense, including the following criteria: a) live in small communities (5–100 persons), b) reside far from basic services and facilities, c) rely heavily on hunting and gathering as a source of livelihood, d) lack livestock, e) lack adequate cash income, f) are in dependent relationships with better-off members of Botswana society and g) lack leaders of their own (Hitchcock 1992:8).

The Ministry of Education oversees the Brigades' district-level vocational training and production units through the centralised office of BRIDEC (Brigades' Development Centre) (IAE 1985:47). Each individual Brigade focuses on specific production activities desired by the local community, often construction, carpentry, metalwork, auto mechanics and sewing. A few Brigades have offered one-off training courses in craft production, provided some marketing assistance to craft producers or have rented their training facilities to craft trainers from other organisations.

While these sectoral ministries have direct connections with handicrafts, the overseer of all development programmes, and both government and non-government funding support, is the Ministry of Finance and Development Planning (MFDP). This ministry has the power to block or to promote handicraft-related programmes and policy.

Development planning is centralised within MFDP and based on six-year national development plans. Four national planning objectives are the guiding tenets of the overall development process, including: Rapid Economic Growth, Social Justice, Economic Independence and Sustainable Development (GOB 1984; MFDP 1997). The development plan during the time of this study (NDP7) and the next plan (NDP8) contain three strategies influencing the small-scale sector, including handicrafts (MFDP 1991, 1997):

1) Diversification of the economy
2) Creation of employment opportunities
3) Promotion of rural development

Among the strategies to diversify the economy away from the diamond sector, the alternative sectors of manufacturing and service, including small-scale industries and tourism, have been identified as the most promising (Daniels and Fisseha 1992:1; Rempel 1992:1; UNIMEDIA 1997:2–9). Strategies in the 1990s are emphasising the promotion and creation of non-farm, income-generating opportunities, especially through the diversification of rural production and the identification of products that can benefit from further processing within the country, including certain craft products (see Terry 1991b).

Although the development of minerals has been the main engine of growth, the diamond sector has created relatively few jobs (MFDP 1991; Love 1994:73; UNIMEDIA 1997:2). Equally, the recent expansion into vehicle manufacturing and export has only created employment for about 500 people, and only in one urban area (UNIMEDIA 1997:5). The 1980s saw employment growth exceeding the annual additions to the labour market, but there was still a serious backlog of unemployment and underemployment, especially among the youth and unskilled (MFDP 1991:48).[15] The employment situation actually worsened during the period of this study.[16] Government's Revised Incomes Policy notes the potential of the small-scale sector, including handicrafts, to meet the unemployment problem head on through the creation of jobs and self-employment opportunities (GOB 1990b, 1990d; Rempel 1992:6). The importance of exports for creating productive employment opportunities is also recognised (MFDP 1991:29), and therefore the development of crafts as exports can play a role (GOB 1984:5).

According to government statements, the promotion of rural development will remain a high priority in the years to come because most of Botswana's population resides in the rural areas and many rural families remain poor because they lack economic opportunities (MFDP 1991:87, 1997:96). In theory, handicraft development links directly to government's policies for rural areas that include: creating productive employment opportunities, increasing sustained production from land and wildlife, and improving marketing and credit facilities (GOB 1984:5; MFDP 1991:87). In practice, government's intentions have seldom produced actual activities aimed at developing the handicraft industry. Although government places high priority on the creation of productive employment and on rural development, direct expenditures to create formal sector employment or to raise rural incomes have been quite small compared with other public expenditure. Love (1994:78) feels that except for support to the livestock sector,

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[15] The labour force was estimated to have increased from 342,400 in 1984 to 401,800 in 1989, equivalent to a growth rate of 3.3 percent per annum. Formal sector employment increased from 110,000 in 1984 to 176,300 in 1989, equivalent to growth of 9.9 percent per annum (MFDP 1991:176).

[16] From 1991 to 1996, the labour force growth rate remained about the same as during the 1980s at 3.4 percent per annum, but the average annual growth rate of formal sector employment was only 1.1 percent, leading to an increase in unemployment rate from 14 percent in 1991 to 21 percent in 1994 (MFDP 1997:55).

"meaningful rural development in the broadest sense has had low priority and rural development policy was designed primarily to ensure political quiescence." Information from this thesis on the social benefits and economic returns of the handicraft sector can help to guide future policy formation, programme development and efficient resource allocation.

3.5 MANUFACTURING, NON-FARM, SMALL-SCALE INDUSTRIES AND THE INFORMAL SECTOR

The Botswana government defines the industrial sector broadly to encompass not only modern, formal manufacturing but also informal, small-scale, and often rurally based manufacturing activities, as well as commercial enterprises offering repair and services (GOB 1984:2). Most government statistics combine all the above mentioned manufacturing activities, therefore camouflaging the performance levels and importance of the small-scale and informal sector.[17]

Manufacturing growth has been strong, but began from a tiny base (Kaplinsky 1990:173). Botswana's early stage of industrial development was dominated by the Botswana Meat Commission and later strongly influenced by Kgalagadi Breweries (Lewis and Sharpley 1988:7; MFDP 1991; Tsie 1996:599). The 1980s showed a vast increase in the number of textile and clothing businesses, including export-oriented businesses and many small entrepreneurs, particularly women, making knitwear and school uniforms across the country. While the textile industry creates many employment opportunities, it provides only minimal value added because of the high portion of imported materials (FGU 1978; MFDP 1991:156).[18] Other medium- and small-scale manufacturing activities also grew rapidly during the 1980s, including metal products, tanning and leatherwork, and the so-called village industries, which consist mainly of beer-brewing, baking, sewing and tool-

[17] The government only requires manufacturers in Botswana with ten or more employees, or 25 or more horse-power of installed equipment to register and acquire a manufacturing license (GOB 1984:7). No registry exists that lists micro- and very small-scale enterprises. Another part of the problem is the overlapping definitions of manufacturing, small-scale and informal activities.

[18] The textile and clothing manufacturing units that come under the handicraft sector typically produce artistically printed items or one-off creations, which possibly generate greater value added.

making.[19] In general, however, manufacturing has focussed on final-stage assembly or packaging and not on processing the country's own natural resources (IAE 1985:10). Assembling vehicles from imported kits began in 1993, which quickly grew to make up the largest share of Botswana's industrial exports (UNIMEDIA 1997:5).

In 1980, manufacturing represented seven percent of all formal employment, increasing to about 12 percent by 1990 (MFDP 1991:159). Manufacturing value added grew in real terms at an average rate of 6.8 percent per annum from 1984 to 1990 (placing Botswana among the highest of all countries in this category), and was expected to grow at a rate of 9.1 percent per annum during the NDP7 period (Lewis and Sharpley 1988:1). However, the share of the manufacturing sector in GDP has remained virtually unchanged at about five percent throughout the 1980s and 1990s (MFDP 1997:18; UNIMEDIA 1997:5). The constraints to further manufacturing growth in Botswana have not been due to a shortage of foreign exchange or a lack of adequate incentives but, rather, to a lack of water, developed land and skills among the citizen labour force (Lewis and Sharpley 1988:44; PEER 1997:15).

Most of the specific data on the micro- and small-scale enterprises (MSE) come from reports on FAP and training programmes, membership data from business advisory organisations, and two national studies that used different methodology. Despite recent progress in data collection, Botswana still lacks a comprehensive body of information on MSEs (Hansohm and Shiimi 1995:4; PEER 1997:15; Gjern, pers. comm., 1999). One 1992 study, using a definition of ten or fewer workers per enterprise, extrapolated a minimum estimate of 30,000 MSEs that employed 54,000 people and a maximum estimate of 48,000 MSEs employing 88,000 people (Daniels and Fisseha 1992:13).[20] This maximum figure of 88,000 represents about 20 percent of Botswana's total national labour force, which is a much smaller percentage than that of most developing countries,

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[19] It will be these types of non-farm industries that will be examined during this study as a comparison to the handicraft sector.

[20] Other pertinent information obtained from this study and other studies which help to describe characteristics of the MSE and informal sector for Botswana is summarised in Appendix 3.3.

for example, Lagos (50 percent), Nairobi (44 percent) and Abidjan (31 percent) (Business Reporter 1991; Daniels and Fisseha 1992:vii). The Incomes Policy Review Commission in 1990 estimated that the informal sector grew by 5.3 percent per annum between 1984 and 1987 (GOB 1990b). PEER Consultants (1997:14) note that employment in the informal sector is growing at a faster rate than employment in the formal sector.

The informal sector in Botswana provides a fairly limited range of services and supply of manufactured goods, such as beer-brewing, craft production, furniture and metal products, sewing, hair-cutting, hawking and sale of groceries and prepared foods, along with vehicle, radio and shoe repair (Business Reporter 1991; PEER 1997:14). A picture of the number of enterprises involved in craft production (as defined in this thesis) in comparison to other productive activities (including agriculturally based activities) comes from a study conducted by SIAPAC (1991). Of the 900 rural entrepreneurs interviewed, 12.8 percent were conducting craft-related productive activities (SIAPAC 1991:40). If the agricultural enterprises are removed from the sample, then 18.5 percent of the enterprises were making crafts.

The Botswana government believes that a free-enterprise, market-oriented system is the best and most efficient way to produce goods and services. Government continues with the approach of guiding and assisting industry and the private sector in general with incentives and services rather than directing or controlling (GOB 1984:2; Kaplinsky 1990:173; Tsie 1996:606).[21] Focus is placed on broadening the industrial base, promoting non-traditional exports, strengthening inter-sectoral linkages, and maintaining an 'enabling environment' for the private sector (FGU 1978:4; GOB 1984; Jones 1988; MFDP 1991:169; MCI 1992:1&2; UNIMEDIA 1997:2&5). The most recent indicator of Botswana's eagerness to encourage foreign and domestic investment was the announcement on 8 February 1999 that all remaining exchange control regulations were to be abolished at midnight. As part of this, it was also announced that Botswana was

[21] One major exception to this principle is the 'reservation policy', which states that only Botswana nationals can engage in the manufacturing of specified products, including: school uniforms, protective clothing, sorghum milling, school furniture, burglar bars, cement bricks and bread-baking (Hansohm and Shiimi 1995:7).

preparing to establish itself as an International Financial Services Centre (Anon. 1999:11).

Government's intention to broaden the industrial base and promote non-traditional exports can influence future types of handicraft projects. Government considers several areas worth supporting: the manufacturing of leather products made from locally available hides and skins, utilisation of indigenous trees especially from the Chobe area, and processing of semiprecious stones (GOB 1984:5; Jones 1988; MFDP 1991:170).

Part of the enabling environment includes the continual review of existing laws and regulations concerned with commerce and industry. Just after independence, government removed discriminatory legislation having a negative impact on commerce (Tsie 1996:606). Two rulings were changed in the early 1990s, which had a direct impact on small-scale enterprises, including crafts. In the past, any application for a new craft production unit, wholesale operation or retail shop had to be presented in the *Government Gazette* and anyone could state their objection to this possible competition. Bureaucratic licensing boards without sound business experience could deny an application on the grounds of non-viability (GOB 1990b:14; MFDP 1991:170). The removal of these two rulings has encouraged competition and opened-up opportunities for creative entrepreneurs.

Another aspect of the enabling environment includes various forms of assistance to entrepreneurs, including some direct and indirect subsidies, and credit programmes (MCI 1992:1&2). However, government and donors are often reluctant to consider the provision of long-term subsidies to income-generating development projects. This reluctance stems from the conviction that government should not take on this burden and that the public should shoulder a certain amount of their own development cost. Botswana does provide some direct subsidies through ALDEP, AE-10, ARAP, FAP, EPF, etc., which are used to offset capital and some initial recurrent costs. However, according to Tsie (1996:605&610) many of these are for agricultural-related activities only, and have "only cushioned the poorer sections of the peasantry from proletarianisation and the effects of drought... [and] ...also went a long way toward

'demonstrating' the concern of government with 'people's welfare'." Indirect subsidies' are channelled through the provision of training and advisory services, and, less frequently, marketing support. There are no general subsidies on inputs or transport. Even when subsidies are available, many people cannot take advantage of them and they are not well-targeted (IAE 1985:36; Deloitte & Touche 1996:14; PEER 1997:13&36). Furthermore, the strong concentration of economic activities and wealth in the Gaborone area suggests that more promotion and development need to be directed to the rural areas (Hansohm and Shiimi 1995:8). Coordinated promotion and assistance to manufacturing, including a national export development strategy, have been suggested but never created. Under this would be a national strategy for craft development as a specialised sector with specific plans for product development and export promotion, including export incentives (Jones 1988).

Though many problems face Batswana entrepreneurs in non-farm, small-scale industries and the informal sector, there are also a number of possible strategies to address the problems (see Appendix 3.3). Overall, Botswana's small-scale and informal sectors have a major role to play in encouraging entrepreneurial talent, especially considering the widely cited lack of entrepreneurial skills in Botswana (Business Reporter 1991; Tsie 1996:607).

3.6 TOURISM SECTOR

Although Botswana's tourism industry is based largely upon wildlife (GOB 1990c), wildlife has yet to be fully exploited (Barnes 1991, 1992) and other aspects of tourism have received very little attention (ITB 1979; MFDP 1997:307). The potential of cultural and historical resources for tourism has barely been tapped (Hitchcock 1991:162; MFDP 1991:295; Kuru 1997a:4; PEER 1997:77).

After three decades of hunting as the main tourist attraction (Campbell 1991:241), the 1980s saw the dramatic growth of the industry that emphasised wildlife-viewing/photography. This led to a haphazard proliferation of camps in the primary tourism areas, especially the Okavango Delta (Fowkes 1985; Pfotenhauer 1991:1). To improve the situation, a tourism policy was developed and approved in 1990,

emphasising the need to obtain from tourism "on a sustainable basis, the greatest possible net social and economic benefits for Batswana" (GOB 1990c:4; MFDP 1991:299). Specific objectives are: to increase foreign exchange earnings and government revenue, to generate employment and raise incomes especially in rural areas to reduce urban drift, to promote rural development, to improve the quality of national life by providing educational and recreational opportunities, and to project a favourable national image to the outside world (GOB 1990c:4; Chilisa 1991:47; UNIMEDIA 1997:11). The policy emphasises 'high-cost, low-volume' tourism, shifting away from 'casual campers' towards tourists occupying permanent accommodation (MFDP 1991:299). All of these objectives are interrelated and have an impact on the field of handicraft development.

Most evidence suggests that the Botswana policy emphasizing low-density, high-priced tourism can produce high financial and economic returns with minimal environmental damage and loss of preservation values (Barnes 1992:15, 1998:118). Tourism has and can stimulate substantial cash flows to the informal sector through backward linkages in the form of roadside craft sales, purchases of building materials for safari camps and firewood, and dugout canoe trips (ITB 1979:147; Fowkes 1991; Barnes 1992:15). While Fowkes (1985, pers. comm., 1991) believes that high-density tourism would provide a greater economic return through expenditures in such areas as the informal craft sector, others do not feel this idea has been substantiated (Barnes 1992). Structures can be put into place to promote sales of local products and services as part of a high-priced, low-density tourism approach, thereby enhancing both angles for economic gain.

While the analysis of the role of tourism in the economy is greatly complicated by the weakness or lack of data, some estimates have been made (Hermans and Stone 1991:225). For 1989, tourism was estimated to accounted for 2.5 percent of the GDP or approximately P100 million (GOB 1990c:2); by 1995 this had increased to 3.0 percent and P272 million (MFDP 1997:307). Tourism clearly has the potential to contribute to the diversification of the country's economic base, and the importance of this was conceded by government in 1997 by extending FAP grants to include tourism (MFDP 1991:295, 1997:309; UNIMEDIA 1997:11).

Using the World Tourism Organisation's (WTO's) definition of a tourist (i.e. business, holiday or day visitors), in 1988 about 250,000 of the 898,000 people arriving in Botswana could be classified as tourists (Tsiang 1991:27). Only 61,000 of these visitors were 'on holiday' (Tsiang 1991:27) and about 45,000 entered Botswana's national parks or reserves (FGU 1988b). If 74 percent of holiday visitors travel to game parks, the rest must come with interests other than seeing wildlife, and these interests need to be discovered and enhanced.

Estimates of numbers employed directly in the tourist industry range from 1,000 to 5,000 in the 1980s (ITB 1979:120; Hermans and Stone 1991:237; MFDP 1991:298), rising to as many as 27,000 in 1995 (MFDP 1997:307). About 70 percent of those employed are found in rural areas, and about 40 percent of all formal sector jobs in the northern part of Botswana are attributed to tourism (MFDP 1991:295). This spatial distribution of employment enhances government objectives concerning rural and remote areas. Nevertheless, Hermans and Stone (1991:237) feel that the employment figures are low, because the main activities (i.e. safari and hunting operations) are not labour intensive and the 'curio' industry is poorly developed. While the numbers employed in the 1980s might have been low, the impact was still considerable. Many employees in the tourism industry are the sole supporters of large households, as often happens in rural areas where employment opportunities are limited (Warren 1991:139).

Regarding foreign exchange flows from tourism, Hermans and Stone (1991:231&239) feel that tourism in Botswana has not been a particularly significant gross earner of foreign exchange. Botswana must begin to produce domestically, and supply, more of the goods and services needed for the tourist industry (including crafts) before tourism can be seen to add significantly to the balance of payments.

While recognising that tourism can benefit the country by widening the economic base, Botswana does not have to promote tourism "as a desperate means of securing foreign exchange" (ITB 1979). Botswana can afford to avoid mass tourism, while cultivating a "rarity value" along with a reputation for high quality and a distinctive product (Cooke 1991:16). Equally, Botswana has the potential to be noted as a country that produces a

high quality, distinctive craft product. If policy and process move along together, a positive symbiotic relation can occur between the tourism and craft sectors.

3.7 CONCLUSION

The state of Botswana presents mixed elements; some aid the craft sector, while others hinder it. On the one hand, Botswana is rich in mineral wealth, has an abundance of wildlife and plant resources, and is blessed with a diverse human resource base, along with an unparalleled record of political stability in sub-Saharan Africa. On the other hand, its landlocked position, arid climate, unreliable rainfall, small, but scattered population and increased rural–urban migration create difficulties. Despite Botswana's excellent economic record, unequal income distribution, unemployment and underemployment remain problems, and 60 percent of the population is still thought to be living in poverty. The current HIV/AIDS epidemic is now posing probably the single most important development problem for the country, and the costs faced by the government in terms of loss of skilled employees and increased health budgets will be significant.

Much of the existing administrative infrastructure and policies favour the craft sector, but very little positive action has occurred in practice. If properly recognised and supported, the craft sector could play an important role in the government's goals of diversifying and increasing income-generating opportunities, improving income distribution, enhancing household-level self-reliance and reducing the need for public transfers. The natural symbiotic relationship between crafts and cultural expression, natural resource utilisation and tourism has great potential for expansion, which could ultimately, enhance all four areas.

4. OVERVIEW OF BOTSWANA'S HANDICRAFT SECTOR

4.1 INTRODUCTION

This chapter presents the broad characteristics of the producers, products and raw materials found in Botswana. Marketing structures are described in general terms, as well as current forms of development assistance. This overview information has been compiled from knowledge obtained during the period 1982–1993 while the author worked directly in the Botswana craft industry, and from the process of compiling background information for this thesis. In contrast, the rest of this thesis covers the empirical data collected specifically for this study.

This thesis does not focus on the artistic aspects of crafts or delve into details of technique, design and product types. Because some of this information is useful for a better understanding of the different craft categories, annexed at the end of this thesis are two publications written by the author and one co-authored. Terry (1986a) describes Botswana basketry techniques, while Terry and Cunningham (1993) look at the impact of commercial marketing on the technical, design and material aspects of southern African baskets. Terry (1990b) provides an overview of most Botswana craft products.

4.2 PRODUCERS AND PRODUCTS

The craft producers of Botswana today can be classified in four different ways: by type of product, production method, gender and location. In preparation for the thesis surveys, it was determined that Botswana has approximately 5,000 craft producers, just over 50 production units, and also about 50 marketing outlets. Of the 5,000 individual producers, 84 percent produce traditional crafts and the rest contemporary products, 86 percent work informally rather than using formal methods of production, 77 percent are women, and 93 percent work in rural areas (only seven percent are urban as compared to 24 percent of the general population). Appendix 1.2 defines these classification terms, and Appendices 4.1 to 4.8 list producers and marketing outlets accordingly. The listings have also been summarised into two tables: Table 4.1 divides the producers into ten categories based on product type, and estimates the percentage of rural producers and female

producers in each category. [1] Table 4.2 lists the number of producers in each district and compares this with the enumerated district population. Map 4.1 depicts production areas country-wide, while Maps 4.2 to 4.11 show production areas in each of the ten districts. All maps have been compiled from observation and the thesis survey work. Figures 4.1 to 4.21 provide photographs of craft producers and their products, and unless otherwise noted are by the author.

Several reasons can be cited for the dominance of traditional crafts, informal production methods and rural-based producers. Botswana remains predominantly a rural society. People living in rural areas have few opportunities to earn a cash income, making handicraft production a major one. Traditional crafts are more in demand by the market, and most people who have traditional craft skills remain living in rural areas. Most of these products are suited to informal systems of production. People do not need to meet formally to share work space or tools. The flexibility of an informal system usually works to the benefit of the producers, but certain disadvantages arise because people working in isolation cannot share ideas on production or marketing. Much to the frustration of the average craft advisor, rural informal producers are extremely reluctant to form groups,[2] and the power that can come from working in groups does not occur. Until many more contemporary craft production units are encouraged to start in urban areas, craft production in Botswana will remain predominantly traditional, informal and rural.

Of the approximate 4,200 producers making traditional crafts, 79 percent are women. Of the almost 800 contemporary craft producers, 65 percent are women. Only the craft sub-sectors of skinwork and carving are dominated by men. Women probably dominate the craft scene for two main reasons. First, basketmaking is the traditional domain of women in Botswana and it has been strongly encouraged by the commercial market, making baskets the premier product from Botswana. Second, many rural men have had more opportunities in the formal sector, especially regular contracts at the mines in South

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[1] See Appendix 1.2 for definitions of these craft categories.

[2] This situation does not apply only to craft producers. In a survey of 900 non-agricultural production enterprises in Botswana, only 2.2 percent worked in groups (SIAPAC 1991:39).

Africa throughout the 1970s and first half of the 1980s. In contrast, the role for rural women has been dictated by societal and cultural norms, with women taking care of their families and working as subsistence agriculturalists. When the opportunity is present, women can produce and market craft products to secure cash income, making this a favourable feature of the craft sector.

TABLE 4.1 ESTIMATED NUMBER OF ALL PRODUCERS ACROSS BOTSWANA IN TEN PRODUCT CATEGORIES (as of November 1992)

CATEGORY	NUMBER OF PRODUCERS	% OF TOTAL PRODUCERS	RURAL PRODUCERS AS % OF CATEGORY PRODUCERS	WOMEN AS % OF CATEGORY PRODUCERS
1) Basketry	2408	48	100	98
2) Beadwork	850	17	100	100
3) Skinwork	715	15	100	7
4) Leatherwork	326	6	46	54
5) Carving	238	5	100	2
6) Weaving	176	4	41	93
7) Textiles	92	2	62	93
8) Pottery	72	1	93	86
9) Jewellery	51	1	51	90
10) Misc. Crafts	33	1	100	9
TOTAL	4961	100	93	77

Source: Producer lists (Appendices 4.1 to 4.7)

Table 4.2 reveals that Ngamiland has by far the greatest number of producers, because many basketmakers living on the western side of the Okavango Delta have been encouraged over the past 20 years to produce for the commercial market. More difficult to determine is the reason for Ngamiland basketmakers receiving more attention than the Bushman weavers in the Nata area of Central District or the Birwa weavers in eastern Botswana. Possibly, even initially, the sheer number of weavers in western Ngamiland was attractive to both marketing and aid organisations. Buying from more producers in one area was more viable than travelling to many scattered areas. Accessibility was probably also a factor. A three-day trip from Gaborone was needed to reach the Ngamiland basketmaking villages, while Kobojango in eastern Central District took only

two days. However, the flooding of the Mothotse River with no bridge for crossing made Kobojango weavers unaccessible for three to four months during most years.

TABLE 4.2 GEOGRAPHICAL LOCATION OF PRODUCERS BY DISTRICT

DISTRICT	NO. OF PRODUCERS	% OF TOTAL PRODUCERS	POPULATION BY DISTRICT[1]	PRODUCERS AS % OF DISTRICT POPULATION
Ngamiland	2879	58	94,322	3.0
Ghanzi	535	11	24,695	2.1
Kgalagadi	421	8	30,873	1.3
Central	247	5	463,537	< 1
North East	231	5	108,387	< 1
Kgatleng	221	4	57,168	< 1
Chobe	183	4	14,186	1.2
South East	124	3	203,250	< 1
Southern	61	1	159,038	< 1
Kweneng	59	1	169,835	< 1
TOTAL	4961	100	1,325,291	--

Source: Producer lists (Appendices 4.1 to 4.7); [1]Adapted from 1991 census data (CSO 1991a:7)

Relatively large numbers of producers are also found in Ghanzi and Kgalagadi Districts because most Bushmen live there, and Bushman producers form the largest percentage of producers. Being generally marginalised in most aspects of social and economic life, aid organisations have promoted their traditional craft production as one avenue of economic hope.

The physically small districts of North East and South East have more producers than some larger districts, because the urban areas of Francistown and Gaborone are in these two districts. Formal production units tend to be in urban areas where the infrastructure for both production and marketing is generally good.

The reason for few producers in Southern and Kweneng Districts relative to their enumerated population is difficult to determine. The relative vastness and remoteness of these two districts do not favour craft development or marketing assistance, but the situation is no worse than in Ghanzi and Kgalagadi. The four districts also have similar natural resources for craft production. Possibly the Ngwaketse and Kwena, who are the dominant tribes in the Southern and Kweneng Districts, have not chosen to pursue their material culture traditions. One other possibility could be that the Jwaneng diamond mine in Southern District provides employment opportunities for unskilled, uneducated labourers (usually men) from around the area, which may be preferable to informal craftwork.

4.3 TRADITIONAL CRAFTS

Certain traditional, usually utilitarian, crafts in Botswana were produced by agriculturalists, others by pastoralists, and a different set by hunters-gatherers (Larson 1975; Ebert 1977; Silberbauer 1981). These traditional crafts continue to dominate over contemporary products, and some are still produced for use in the customary manner (Taylor 1994), but most are simply replicated for the commercial market (Yoffe 1978; Vulcano 1985; Terry 1991b).

Many different crafts were produced by the agriculturalists, but the woven basket was, and still is, the primary example of a traditional, utilitarian craft for Botswana (Ebert 1977; Terry 1984a, 1986b, 1988b; Terry and Cunningham 1993; Taylor 1994). Different shapes of baskets are created and used for a variety of purposes, including storing, winnowing, carrying and straining. The main producers of the famed Botswana baskets are the women of the Yei and Mbukushu tribes in Ngamiland District in north-western Botswana (Lambrecht 1968,1976; Yoffe 1978; Levinsohn 1979, 1984; Terry 1984a, 1984b, 1986b). Baskets are also produced in other parts of Botswana, but to a much lesser extent, including the Subiya in the north-western Chobe District, the Bushmen in the Nata River region and the Birwa east of Bobonong in Central District (Ebert 1977; Terry 1988a, 1988c). These same tribes are also known for their woven mats with their delta and riverine environments supplying the necessary reeds (Taylor 1994). A few

Tswana and Kalanga, both men and women, produce baskets in North East, Kgatleng, and Southern Districts, but in these areas, materials other than Hyphaene petersiana *(mokola)* palm are used (Supa-Ngwao 1991).

Other crafts made by agriculturalists are farm implements, such as hoes, axes and adzes, which combined the techniques of woodcarving and blacksmithing (Larson 1975). Most of the tribes throughout Botswana continue to make wooden products for use in the homesteads, such as spoons, stirring sticks, mortar and pestle sets, knife sheaths, stools and *kgotla* chairs. While wooden bowls are made for commercial marketing, they have been largely replaced by enamel bowls for local use (Larson 1975; Cuypers 1987). Commercially, the woodcarvers who have received the most encouragement include the Mbukushu in Etsha in Ngamiland, the Hurutshe, Kalanga and Ngwato in the Shashe area of Central District, and the Bushmen and Ngwato in the Serowe area of Central District (Serowe Woodcarvers undated; Supa-Ngwao 1991; Cuypers 1987; Terry 1987b).

Certain agriculturalists, including Mbukushu men, and Subiya and Tswana women, traditionally made clay pots for storing water or beer. Due to the arrival of 'modern' plastics and metals and the easy accessibility of buckets and basins from South Africa, very few clay pots are produced today in Botswana (Thebe 1997). Unlike some neighbouring countries like Zimbabwe (Gumbo 1990), the commercial production of these pots has not been enthusiastically encouraged. Their size and fragility make transport very difficult and limit the range of their market (Campbell and Gron 1993; Ngakane 1993). Only a few women in the following groups can be found today working with clay in the traditional manner: the Subiya in Chobe, the Kalanga in the north-east, the Kgatla around Mochudi, the Ngwaketse in Southern District and the Kwena around Molepolole (Terry 1990b; Supa-Ngwao 1991; Letlole and Ntshambiwa 1993; Ngakane 1993; Thebe 1997). While Mbukushu men were noted for their pottery work covered in woven reeds or bark (Larson 1975), they no longer have access to clay in Etsha as they did in the riverine areas in Zambia and Angola. No Mbukushu male potters are around today in Botswana.

Pastoralists historically created a different variety of crafts, centring around cattle raising and milking. Milk jugs, used for storing sour milk, were carved from a single piece of hard wood with a sharp bladed adze. Containers for storing cooking fat were made from a wet piece of cow skin hardened into a round shape. While most Batswana raise cattle, the Herero in western Ngamiland are the more significant craft producers, continuing to produce these utilitarian crafts because of their relative remoteness.

Articles needed for hunting and gathering are produced today by the Bushmen who live in the harsh environment of the Kalahari Desert. Although very few still rely on hunting and gathering to survive, some carry on with these activities part-time and use their craft products in daily life (Heinz and Maguire undated; Lee 1979; Tanaka 1980; Silberbauer 1981; Gantsi Craft 1987). A variety of crafts are utilised in hunting, including: bow, quiver containing arrows, poison holder, spear and a fire-making set with two sticks. Gathering equipment includes digging sticks and leather carrying bags and pouches, while whole ostrich eggs are used for collecting and carrying water.

All three groups produced items of clothing and personal adornment, mostly made from skins and beads. The craft of tanning and skinwork was practised by most Tswana tribes, the Herero, Bushmen and Kgalagadi (Schapera 1953; Lee and Devore 1976; Silberbauer 1981). The same tribal groups continue to produce traditional leather items, some for domestic consumption, but mostly for commercial sale (Vulcano 1985; Terry 1988d). Today, beadwork is only produced by the so-called minority tribes, especially the Bushmen in western Ngamiland District and the Bushmen and Kgalagadi throughout Ghanzi and Kgalagadi Districts (Shostak 1976; Bedsted and de Noord 1988; Bubi 1988; Business Strategists 1990a, 1990b; Terry 1991b). While the Yei and Mbukushu used to be prolific beadwork artists in making glass-beaded skirts and aprons, this art has largely died out (Larson 1975; Levinsohn 1984; Terry 1984a). Many rural people continue to wear beaded necklaces or bracelets, but most, except young children or old women, have changed their traditional clothing to polyester 'modern' clothes from South Africa. Although the Herero have also abandoned their skinware, most Herero women persist in

wearing cloth patchwork dresses introduced by German missionaries in the 19th century (Terry 1990b).

Another item made and used by all three groups is the mat. Mats are used for sleeping and sitting at the home, field and cattlepost, and for certain ceremonies. Materials depend on local availability with the production of reed mats isolated to the northern areas, while animal skin mats, both wild and domestic, can be found throughout Botswana (Terry 1984a, 1984c, 1988a, 1988c; Vulcano 1985; White 1986a; Taylor 1994).

One final type of craft product comes from the long-standing practice of creating music for pure pleasure, to pass the time of day, or for healing and religious ceremonies. Some Tswana used to be prolific at the production of musical instruments (Wood 1976). However, only the Mbukushu and Bushmen appear to continue to produce, play and sell a variety of musical instruments such as drums, thumb pianos, and mouth and wooden harps (Larson 1970, 1975; Lee 1979; Tanaka 1980; Silberbauer 1981; Terry 1990b).

4.4 CONTEMPORARY CRAFTS

Certain contemporary crafts fall under the same headings as some of the traditional products (e.g. basketry, carving, leatherwork and pottery), but their actual make-up is quite different. The same types of materials are used, but the style is shaped for 'Western' rather than for local use (Cuypers 1987; Jones 1988; Terry 1988b; 1990b). Other contemporary product types have no connection at all with the customary craft techniques of the cultures found in Botswana. These types include jewellery (as opposed to beadwork), textiles and weavings. For some of these, so-called traditional designs or patterns are incorporated into the piece, but no other aspect of the item is traditional. For example, *mekgabo* Tswana wall designs could be silkscreened on to a tablecloth or woven into a wool tapestry, but the products remain contemporary (Mushonga 1977; White 1988; White 1991; Terry 1993).

In contrast to traditional crafts, none of the commercial production has any basis in tribal affiliation. Any tendency towards one tribe dominating a certain field only relates to the

geographical location of the specific business. For example, many Kalanga produce game-skin leatherwork because they live in Francistown where the main tanning and leather production companies are found. In Pilane, where at least six leather workshops are located, most people are Kgatla. Having noted this, contemporary craft production seems to be dominated by people from the various Tswana ethnic groups, but this seems to be due to political and economic reasons, not tradition.

4.5 RAW MATERIALS USED IN THE HANDICRAFT INDUSTRY

To make the craft products, various raw materials are used, which are taken from either the natural environment of Botswana or imported from other countries. The natural resources can be divided conveniently into two categories: animal and plant. The two categories can further be separated into two: naturally-occurring and domestically-produced. No systematic recording of the natural raw materials has been undertaken prior to this study, but casual observations and some selected studies suggested a large number and variety. The compilation for this thesis in Appendix 4.9 provides details, including both scientific and Setswana names, spatial distribution, parts of animals or plants used, and types of products produced. This list should be seen only as initial groundwork with the need for further research evident.

Animal products are particularly associated with Bushmen crafts and other crafts from the Kalahari Desert. Some examples of game-skin products include: carrying bags from springbok or hartebeest, hunting-set bags from duiker or steenbok, dancing skirts from springbok, and aprons from duiker (Lee 1979; Tanaka 1980; Silberbauer 1981; Gantsi Craft 1987). The fur of certain animals, most notably bat-eared fox and jackal, followed by genet, wildcat and caracal are used in the fabrication of *karosses* (fur blankets), hats and bags. Mats are sometimes made from the same animals, but are more often made with skins of duiker, impala and steenbok (White 1986a). Ostrich eggshell beads and sinew are used for making jewellery and accessories, and to decorate skin bags, aprons and skirts, sometimes in combination with other beads made from seeds, porcupine quills, branches or with imported glass beads. Other items, produced in smaller quantities, using wildlife resources include: 'powder puffs' from the shells of the

Kalahari and leopard tortoises, smoking pipes from the leg bones of steenbok or duiker, and bracelets and fly whisks from the tail hair of wildebeest (Lee 1979; Tanaka 1980; Silberbauer 1981; Terry 1988d, 1991b).

Domestically-raised animals are also put to use. Goat skins and cow hide[3] are widely used for making skirts for school dancing groups, handbags and sandals, and goat skins are especially popular in the fabrication of skin mats. Since late 1989, beef bone, has been exploited for the art of bone-carving, while only a few craftsmen are found working cow horn into such items as buttons, bangles and spoons. Karakul wool is used in tapestry and rug weaving (Lewycky 1977; White 1988; Terry 1993).

Plants have been widely exploited for craftmaking, especially basketry. The primary resource for basketmaking is the Hyphaene petersiana palm, called *mokola* in Ngamiland and *mokolwane* in eastern Botswana. Different weavers employ different materials for the core of the coil-built baskets and a variety of plants are utilised for dying the natural fibres. Other indigenous plant materials are used for various products, such as sitting mats, sifting mats, beer strainers, wigs and wooden creations (see Terry 1986a, Terry and Cunningham 1993, and Appendix 4.9 for details).

Domestically grown plant resources are the base for other craft products. The most important ones include 'corn husk' dolls from the husks of locally grown maize, and jewellery items and decorated calabashes from gourds (Langenaria siceraria).

Besides animals and plants, a few other natural resources are found in Botswana and used for craft production. Certain jewellers incorporate semiprecious stones into their pieces. While some of these stones (e.g. malachite, amethyst, tiger-eye) come from outside Botswana, others are made with stones found in eastern Botswana in the Bobonong area, mainly agate, but also pink and grey carnelian (GOB 1984:5). The few traditional potters scattered around Botswana use clay found near rivers (e.g. Kanye area and Chobe

[3] See Jones 1988:45–49 for an interesting and detailed description of the Botswana tanning and leather industry for cow hide, in relation to export development.

Enclave) (Terry 1988c; Ngakane 1993). In 1983, a relatively large clay deposit was found near Serule. Because of this discovery, government decided to develop the ceramics industry by starting a pottery training centre in Francistown. However, according to potters, the quality of the clay is not that good for commercial ceramics and most enterprises continue to import at least some of their clay from South Africa.

4.6 CRAFT MARKETING STRUCTURE

In Botswana, crafts are marketed at three different levels and in various ways at each level. At the first level, the producers, either working individually or in a production unit, sell their own products, sometimes to local villagers, but more often to visitors coming to their villages. For example, woodcarvers/blacksmiths in Etsha sell their handmade agricultural tools to local farmers and Tsodilo Hill Bushmen sell hunting sets to tourists visiting the Hills. Certain areas are visited regularly by non-profit (usually, 'profit-making but not-for-gain') organisations and commercial middlemen, making them the main market source for individual producers (Anon. 1971; Jensma 1971; Botswanacraft 1983; Terry 1984a, 1988b; Bedsted and de Noord 1988; Business Strategists 1990a, 1990b; Gjern 1994). The parastatal, Botswanacraft Marketing Company, was the primary marketing organisation operating in this way in the 1970s and 1980s. Gantsi Craft staff travelling throughout Ghanzi District and northern Kgalagadi District to buy Bushman crafts, and Botswana Christian Council staff buying baskets in the Etsha area are examples of non-profit buyers. McGregor's Limpopo Trading Company, primarily buying baskets in Ngamiland, was an example of a commercial middleman operating in the early 1990s. Much less commonly, producers travel to another area to sell their own products. While Pilane leather-workers travel to Gaborone daily to sell 'on the Mall' in the city centre and to other towns at the end of the month for street sales, individual producers seldom leave their villages for marketing in larger towns.

The second level of marketing occurs when non-profit and commercial middlemen resell the crafts bought from producers. While the range of activities, size of operation, viability and success vary widely, all of these intermediary organisations have two activities in common: collecting crafts from producers and distributing them to be resold

(Terry 1988d; Business Strategists 1990a, 1990b). Collection usually occurs by the firm travelling out to the producers and, to a lesser extent, the producers travelling to a collection depot or buying point operated by the middlemen. Most organisations pay the producers directly with cash, although collecting on a consignment basis was very prevalent in the 1970s and is still conducted under certain circumstances today. The products are then resold by the middlemen using various methods: 1) retail shops owned by the intermediary organisations, 2) marketing trips around the country to sell formally to retail shops and informally to friends and colleagues, 3) agricultural and trade fairs and craft exhibitions, 4) sending products by air or road to other wholesalers and retailers in the country and 5) exporting.

The third level of marketing is through retail outlets, which are within the country and owned and operated by production units, non-profit organisations, or commercial retail shops (see Appendix 4.8 and Map 4.12). These outlets fit into seven different categories, which are detailed in Chapter 6. The marketing outlets logically tend to be located in the large towns and tourist areas. Some are also found in rural areas to support production units or informal producers working nearby.

Some production units, non-profit and profit-making middlemen, and retail shops undertake exporting, while no individual producers are known to do this. Overall, export marketing is unorganised and underdeveloped, and no overall national-level promotion scheme exists (Jones 1988; MFDP 1991:303–304; Gjern, pers. comm., 1999). During the 1980s, 30 percent of Botswana crafts were estimated to be exported to the United States, several European countries, Australia, New Zealand and certain countries within southern Africa (Terry 1990b).

4.7 ASSISTANCE AVAILABLE TO HANDICRAFT PRODUCERS

As in other developing countries, some assistance is available to handicraft producers in Botswana, both in the formal and informal sectors. The assistance can be in the form of technical and business advice, training, marketing assistance or financial aid. Some of

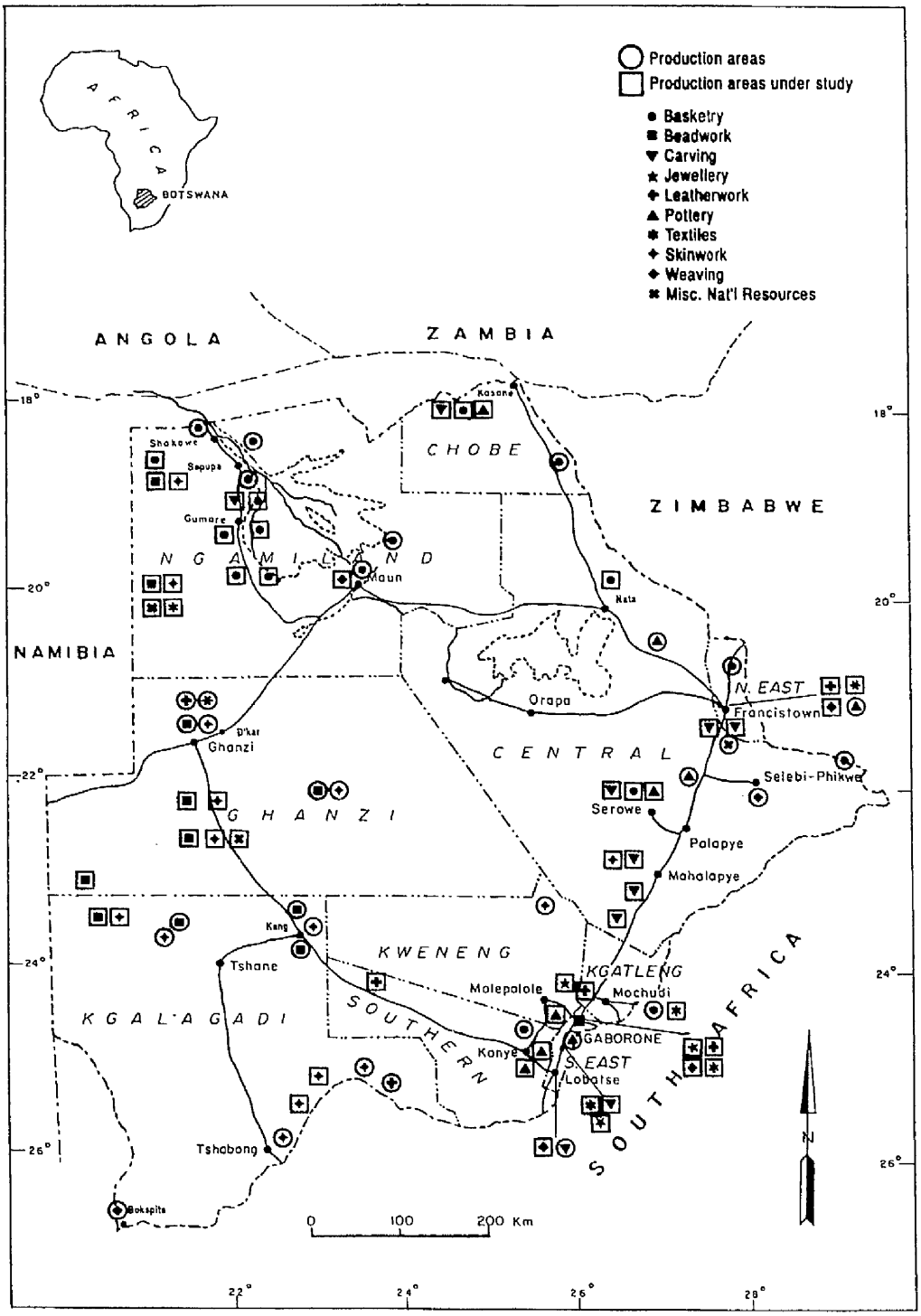
this assistance is provided by government, while other help is given by non-government organisations (NGOs).

In early 1992, 14 different organisations or formal programmes were providing training or advice to producers, with varying degrees of success. Of these, six were government departments or programmes, and eight were NGOs, parastatals, companies or volunteer organisations. Other programmes were in the proposal stage with the majority being posed by NGOs. Appendix 3.1 provides details on these organisations and notes which ones exist at the time of finalising this thesis.

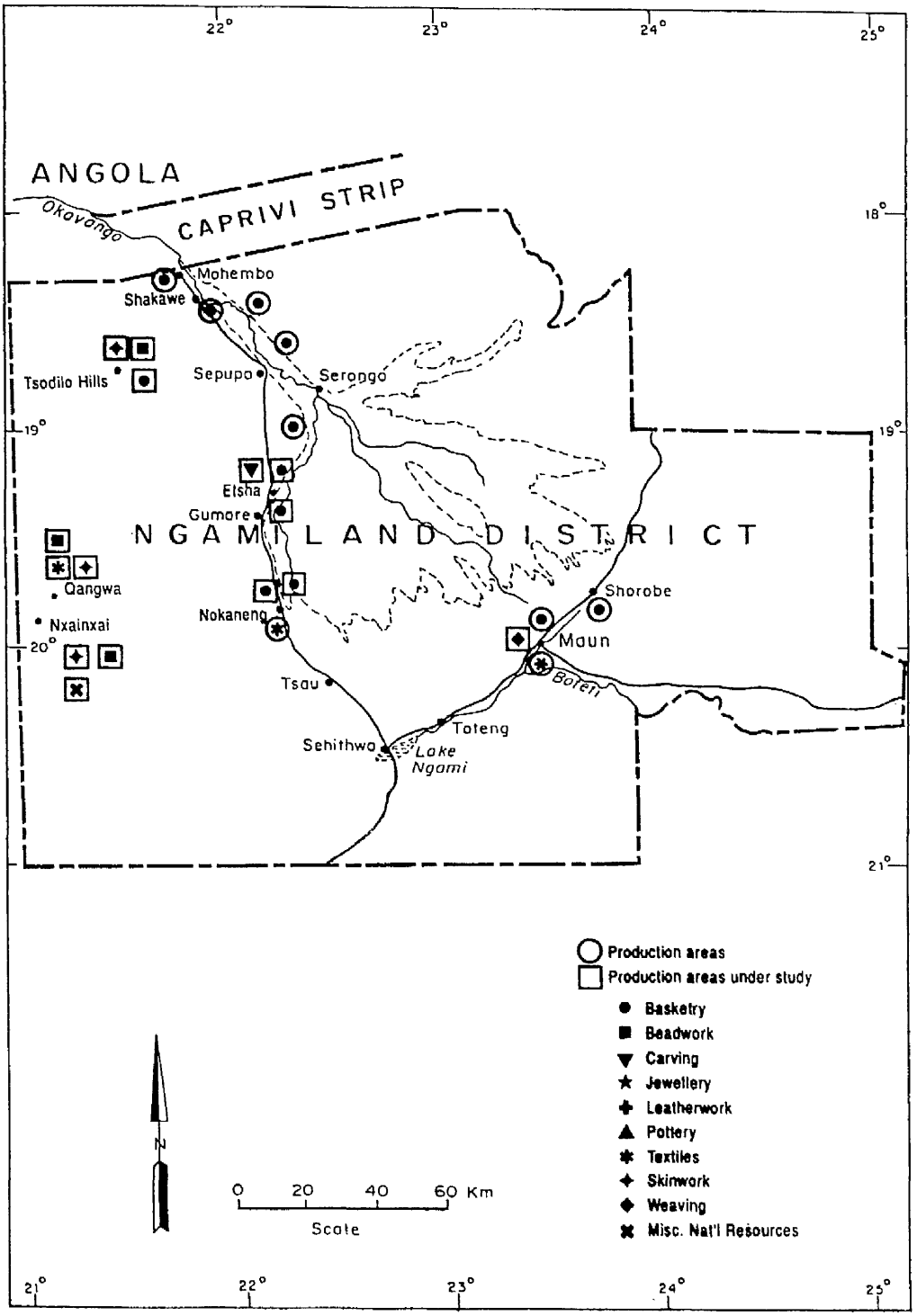
At a national level, the National Development Plan 6 (NDP6 1985–1991) contained a recommendation aimed at assisting the handicraft sector, but it was never implemented, lacking an appropriate coordinating structure (MFDP 1985: Part II, p 6.1). Considerable efforts were made in 1987 and 1988 to provide such a structure via a National Handicraft Development Association. The intention was to have this national coordinating body provide assistance in specific problematic areas: supply of raw materials, production methods, product quality and quantity, availability and coordination of field extension workers, and coordination of marketing and promotional efforts. Despite a proposal drawn up to secure funding (MCI 1989), the association never got off the ground due to the lack of government commitment to obtain financial support.

After the failure to obtain national commitment and support during the NDP6 planning period, no handicraft development efforts were included in the seventh or eighth planning periods (MFDP 1991, 1997), and no national-level support exists. This deficiency is unfortunate, because this sector in every way fits the planning criteria for national and rural development (Jones 1988:64; MFDP 1991, 1997). Terry (1994a), annexed at the end of this thesis, summarises the state of Botswana's craft industry in the last three decades of the 20th century and makes some predictions for the 21st century depending on whether support is provided or not.

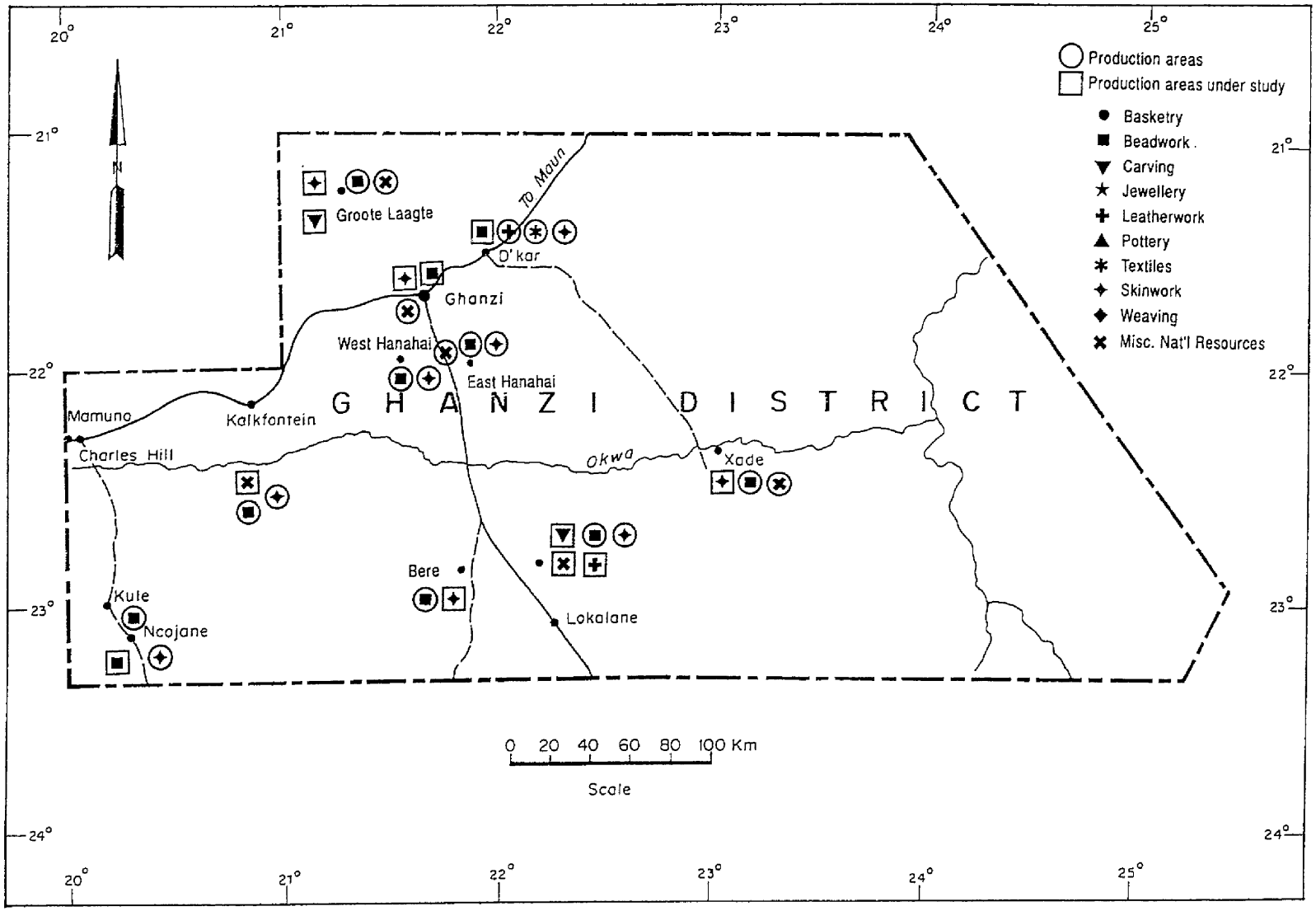
Map 4.1 Craft Production Areas Throughout Botswana



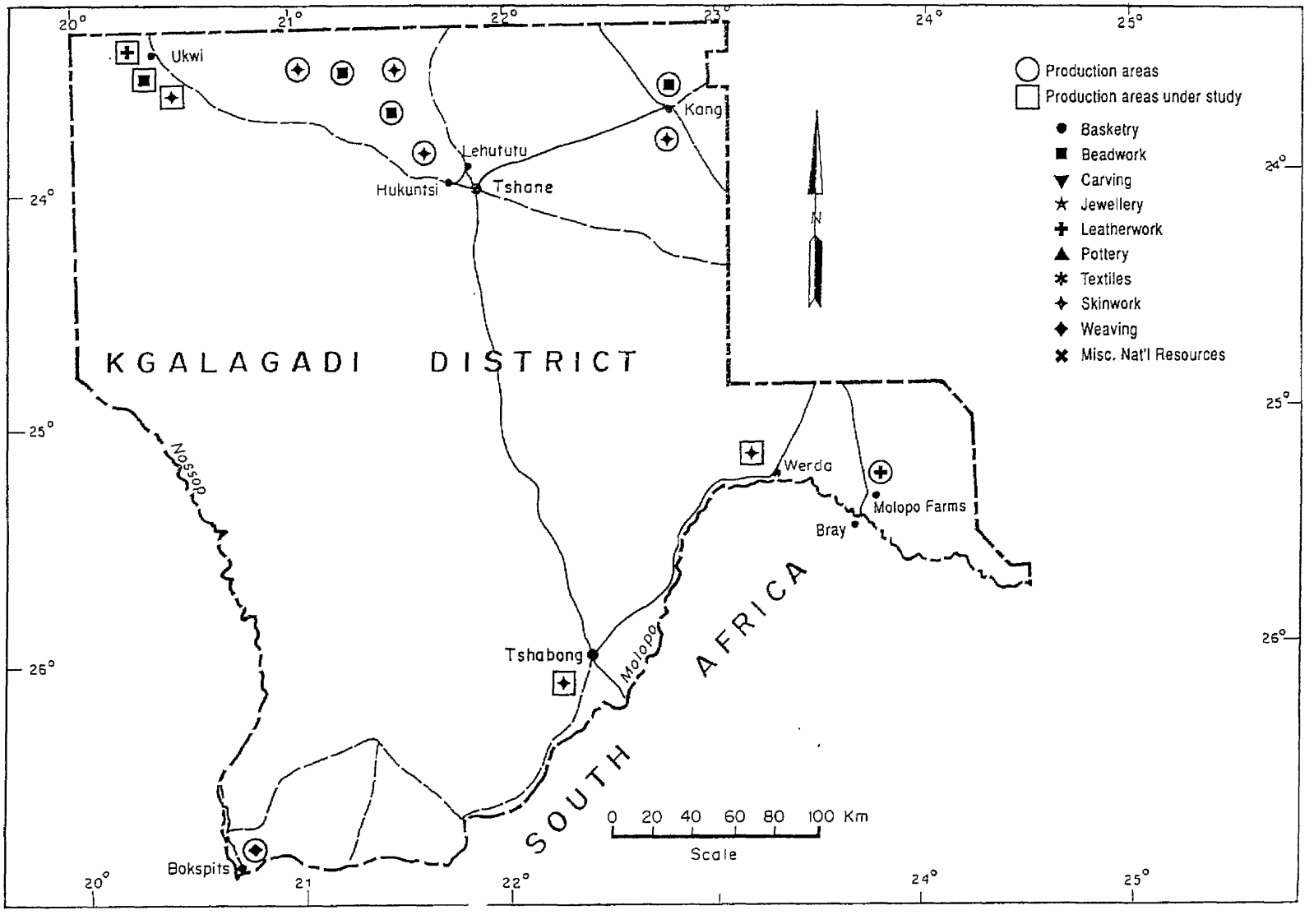
Map 4.2 Craft Production Areas in Ngamiland District



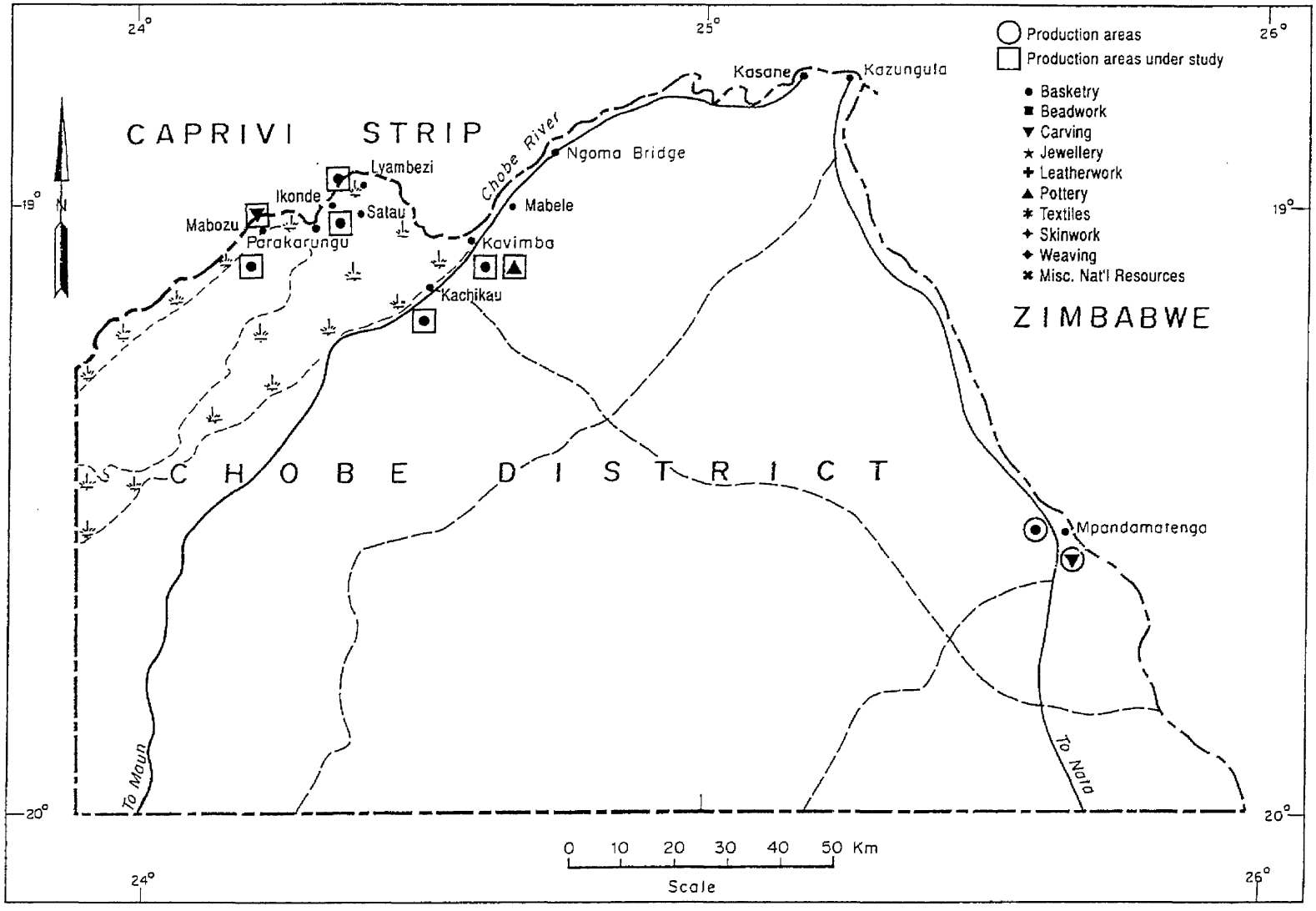
Map 4.3 Craft Production Areas in Ghanzi District



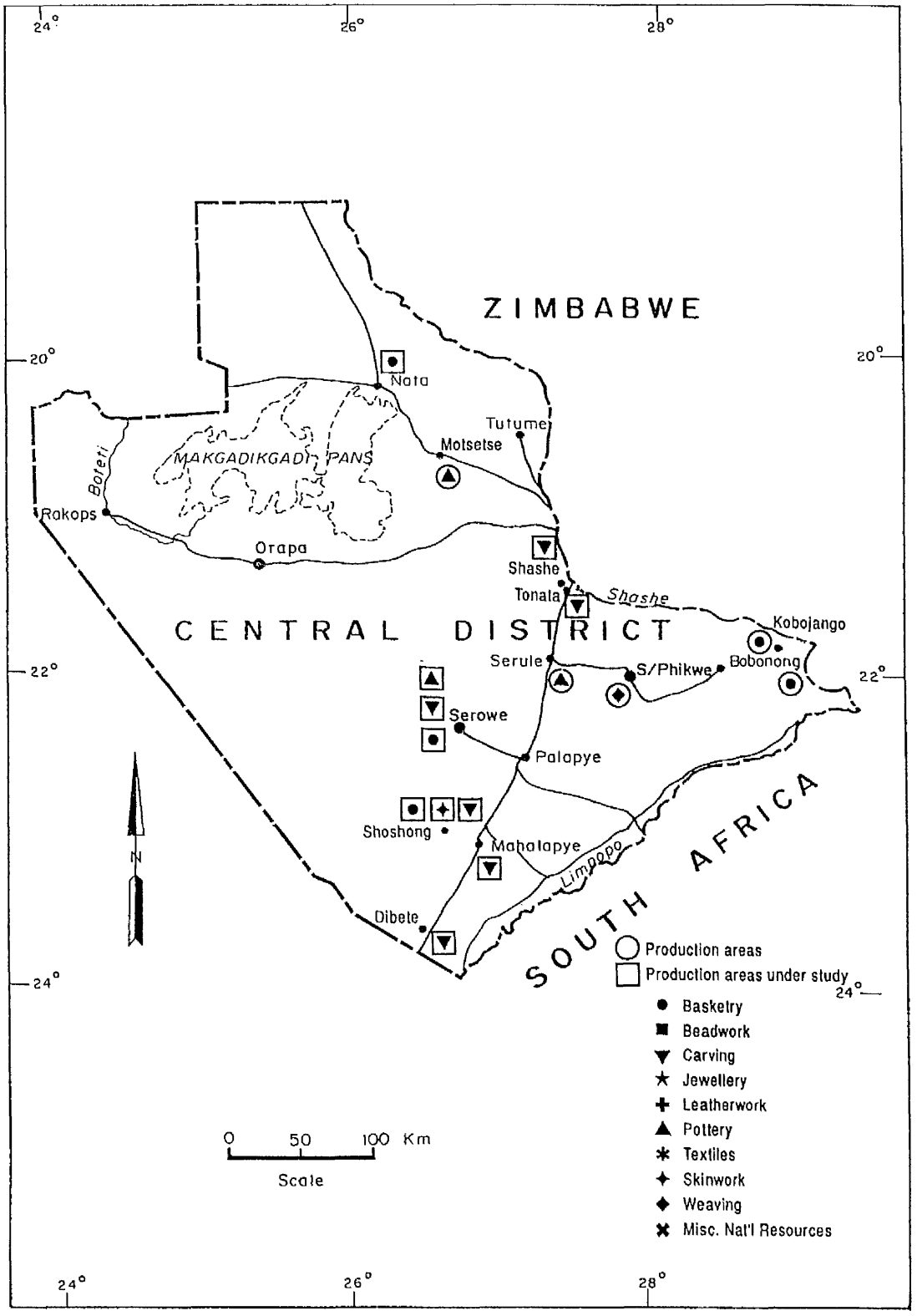
Map 4.4 Craft Production Areas in Kgalagadi District



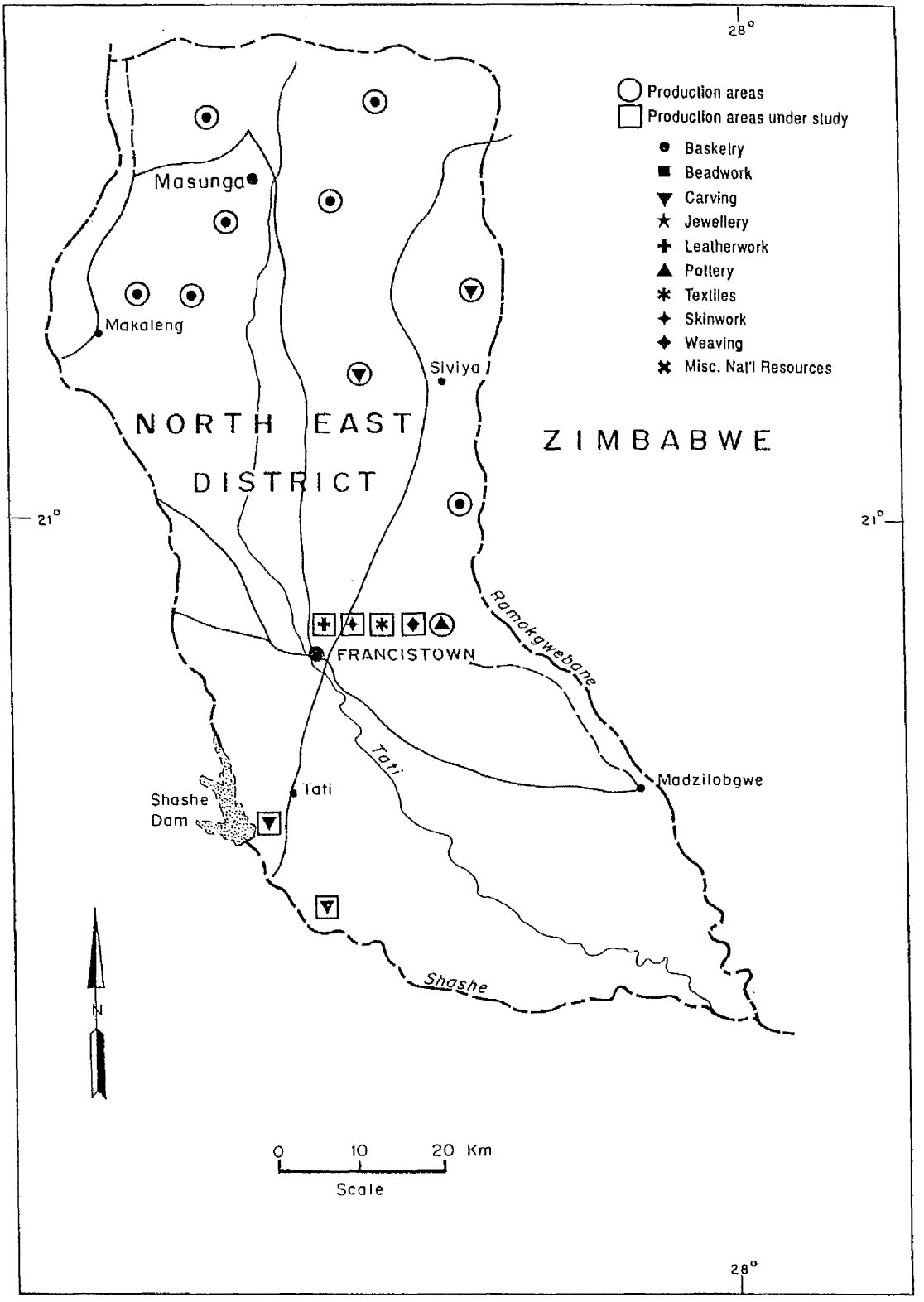
Map 4.5 Craft Production Areas in Chobe District



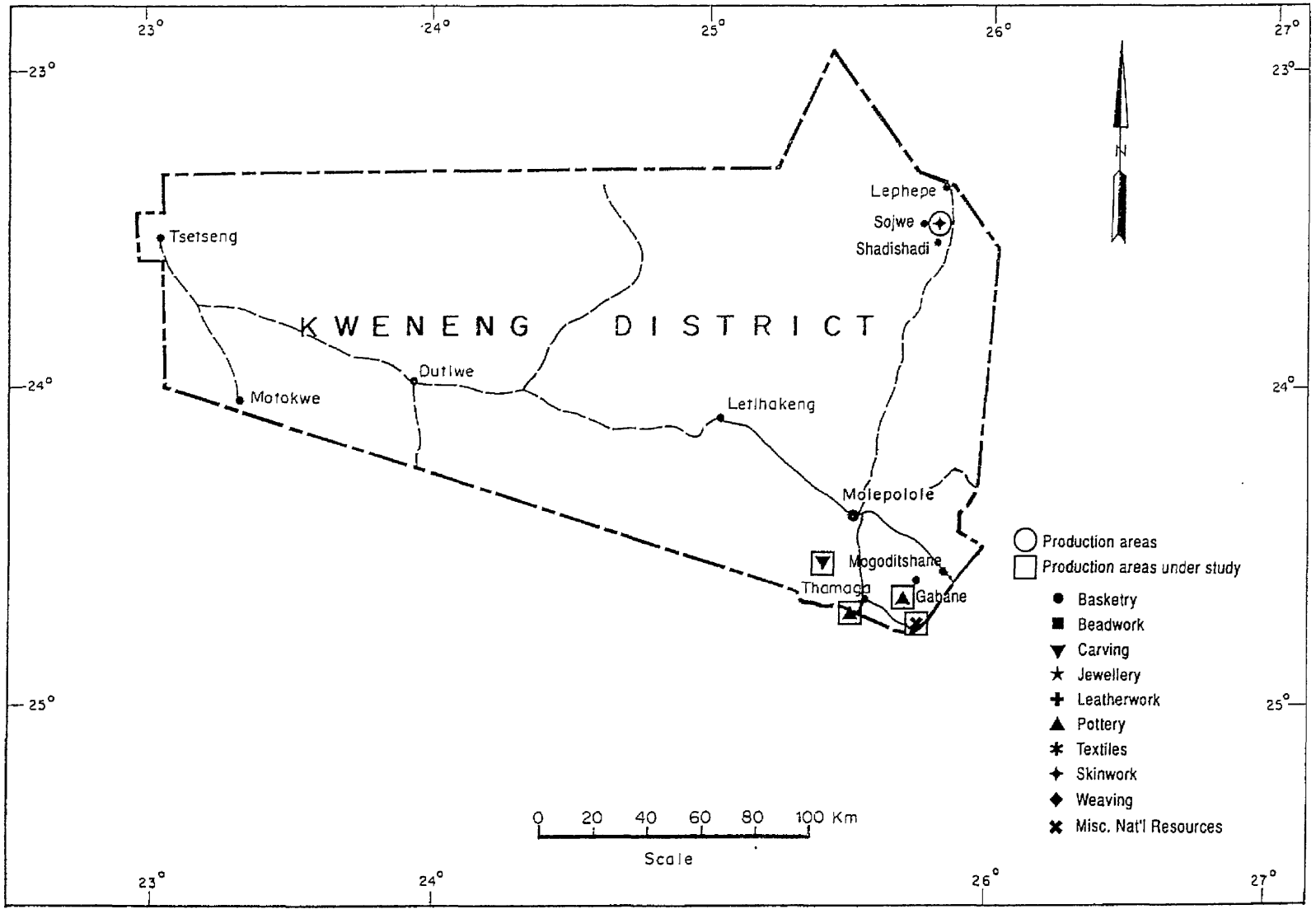
Map 4.6 Craft Production Areas in Central District



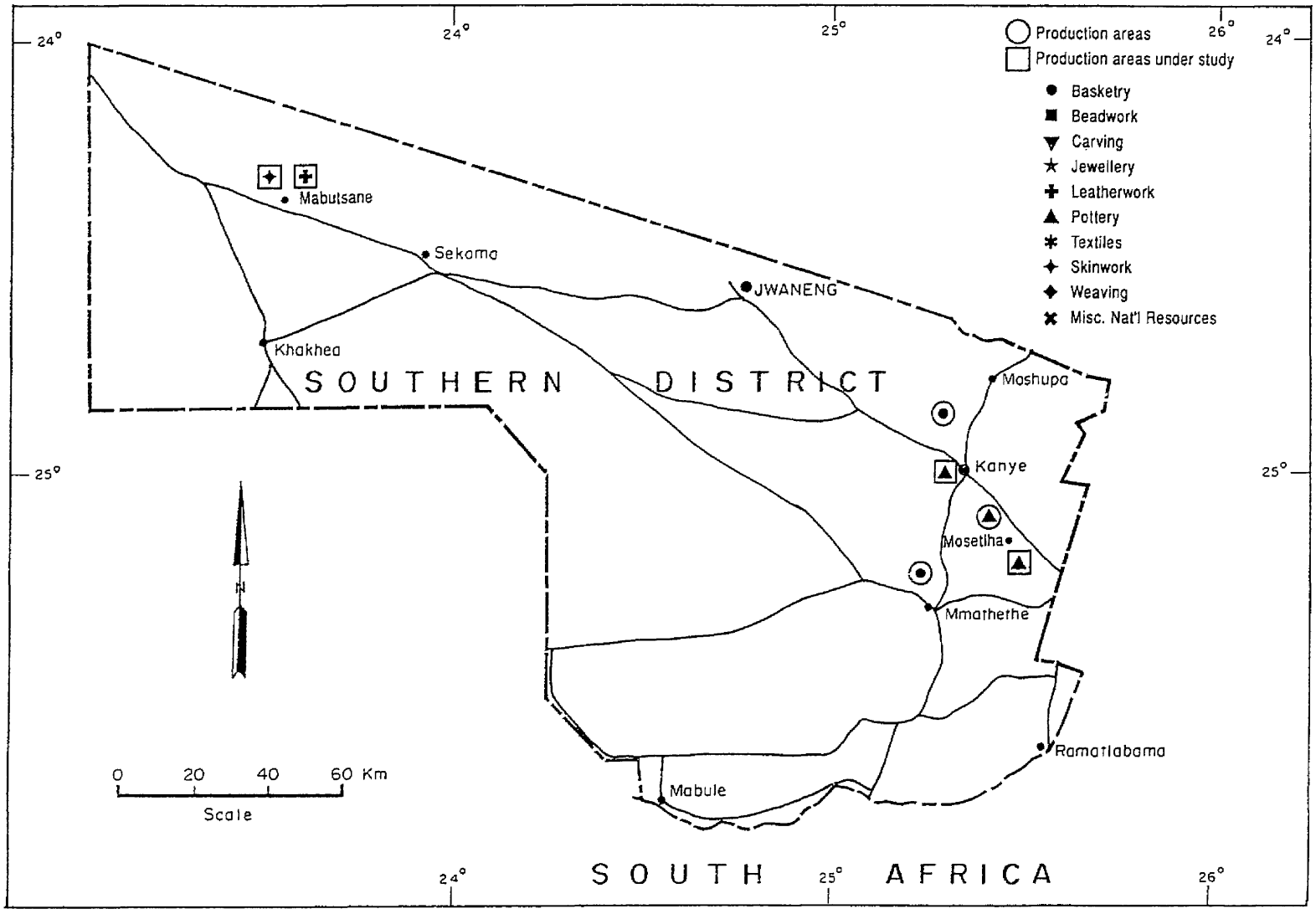
Map 4.7 Craft Production Areas in North East District



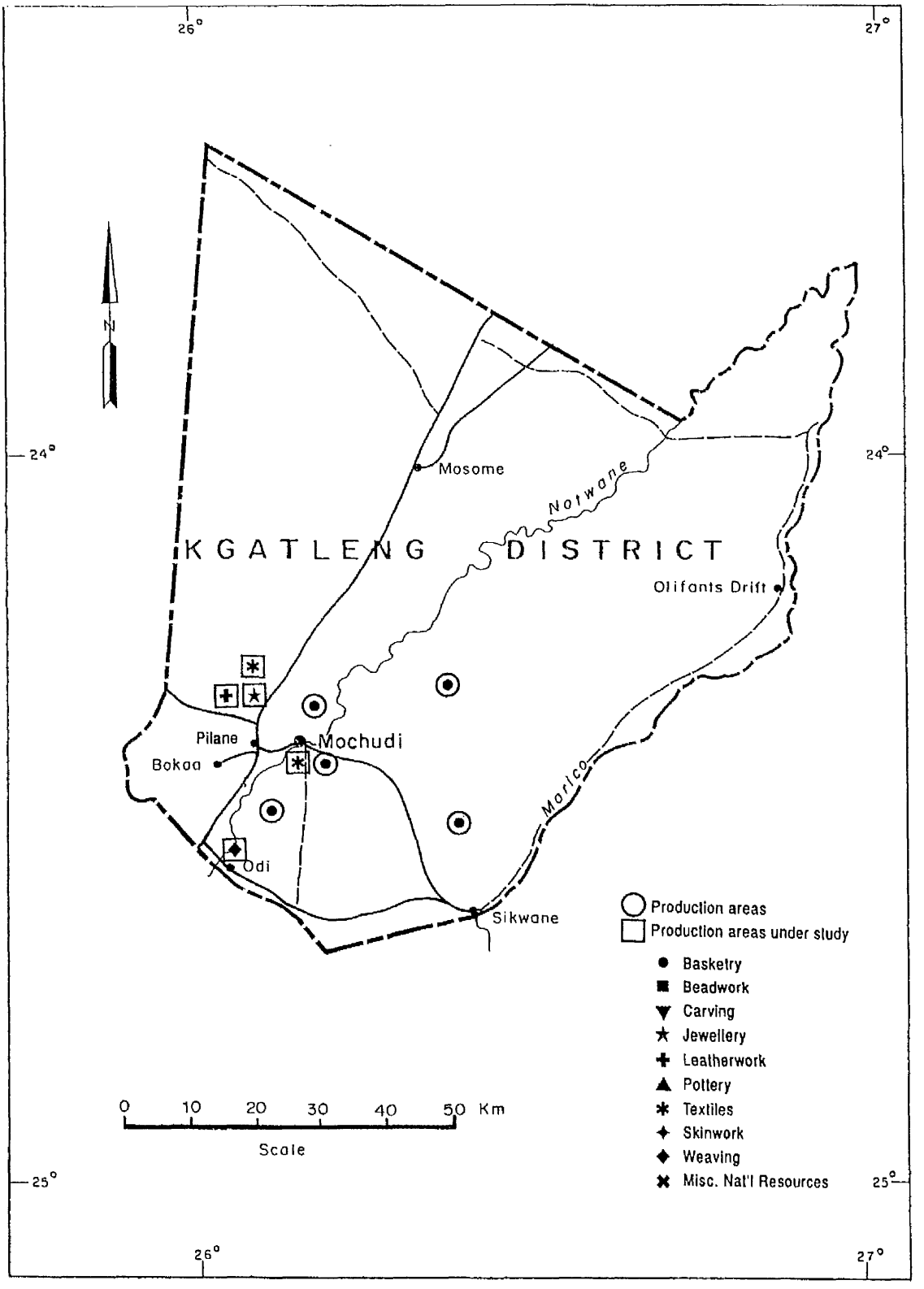
Map 4.8 Craft Production Areas in Kweneng District



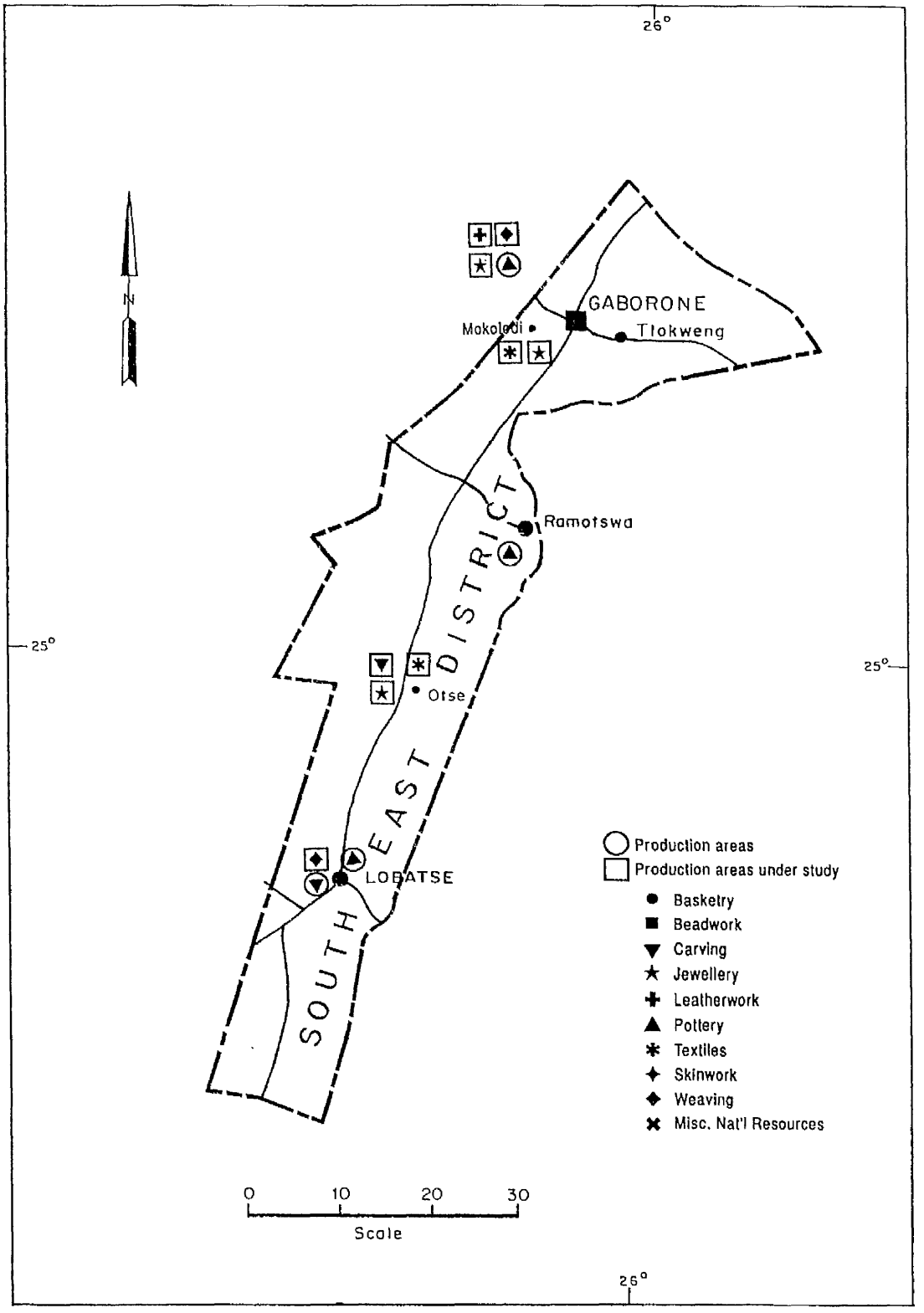
Map 4.9 Craft Production Areas in Southern District



Map 4.10 Craft Production Areas in Kgatleng District



Map 4.11 Craft Production Areas in South East District



Map 4.12 Craft Marketing Outlets Throughout Botswana

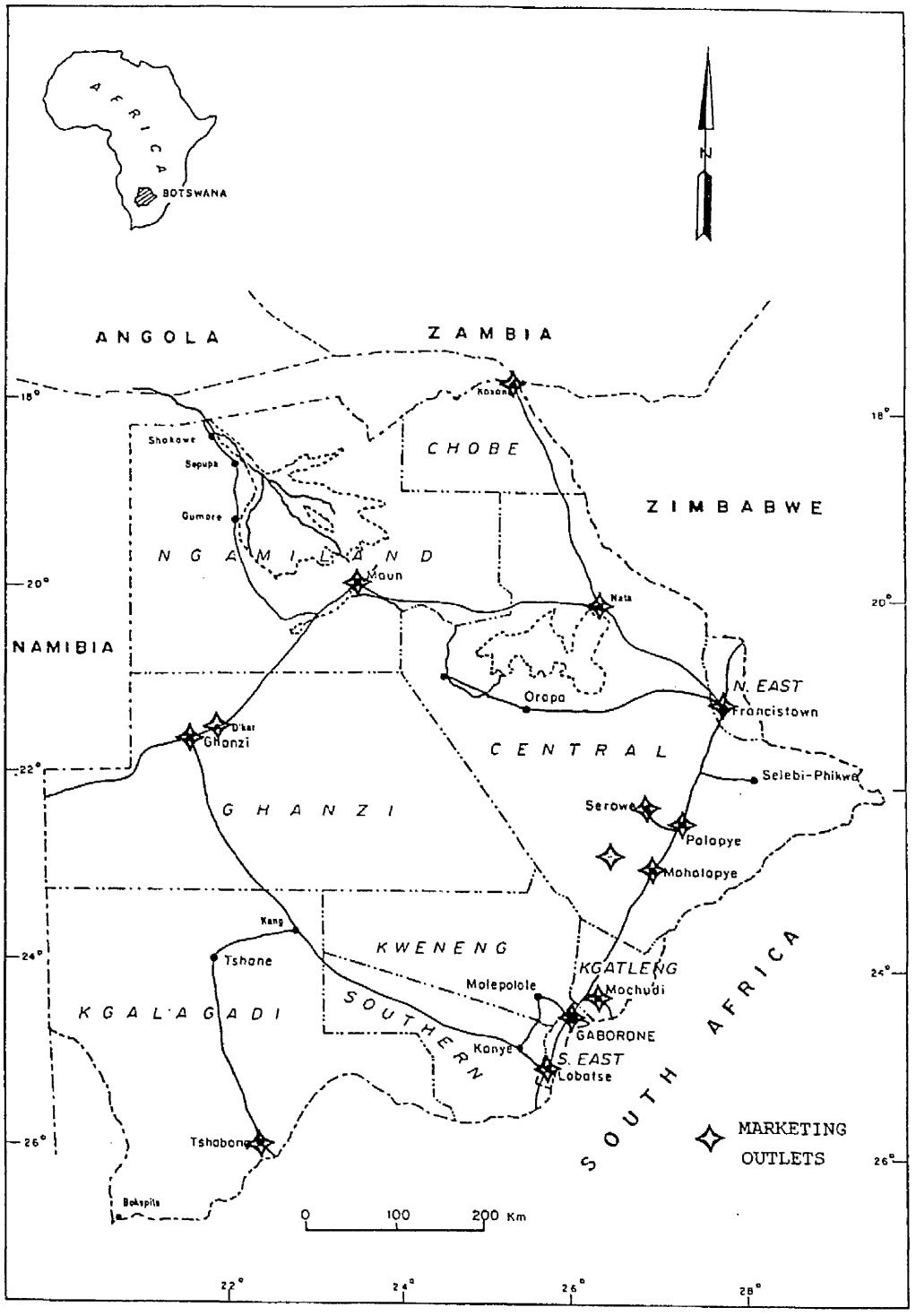
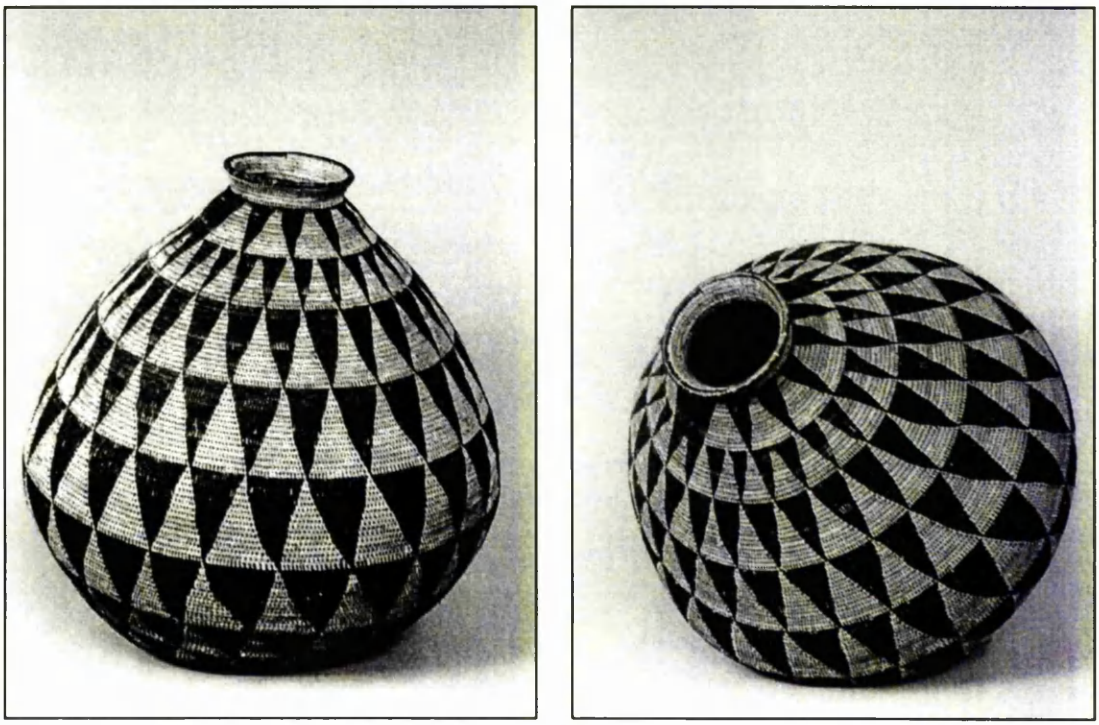
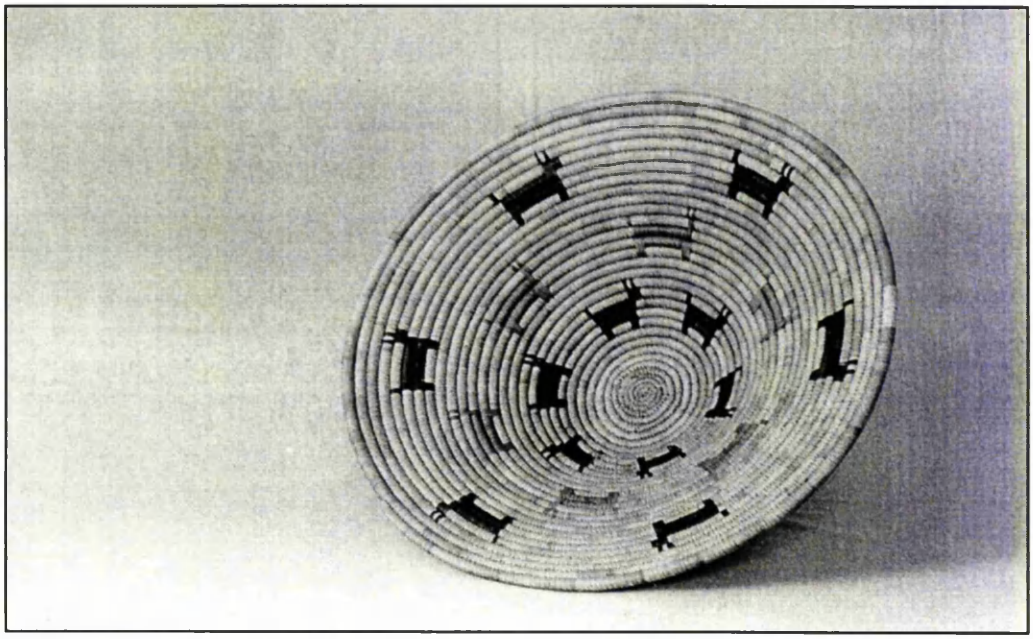


Fig. 4.1 Basketry: Closed Yei Basket and Open Mbukushu Basket

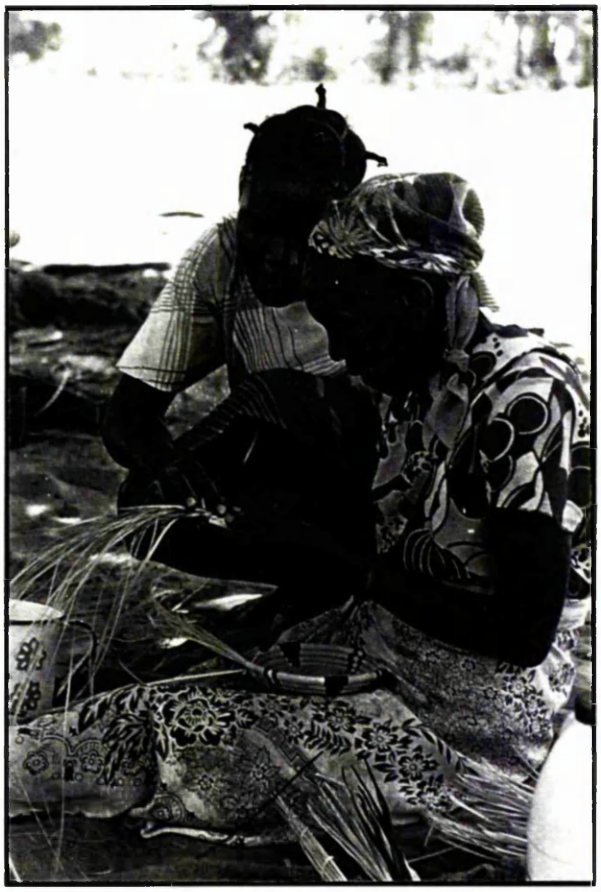


Closed basket made by a Yei woman using Hyphaene petersiana palm leaves dyed with pounded Euclea divinorum root bark into a triangular design called 'fight of the swallow'. National Museum, Monuments and Art Gallery collection, Gaborone, Botswana. No object number. D (top): 13 cm, C (middle): 171 cm, H: 64 cm. Photograph by M. Auckland.



Open basket made by a Mbukushu woman with Hyphaene petersiana palm leaves. Dark 'goat' design using palm dyed with pounded Euclea divinorum root bark to create a dark brown colour. Light 'goat' design using palm dyed with boiled, red-stained sorghum leaves to create a light pink colour. National Museum, Monuments and Art Gallery collection, Gaborone, Botswana. Object number 14.A.1:26. D: 41 cm, H: 12.5 cm. Photograph by M. Auckland.

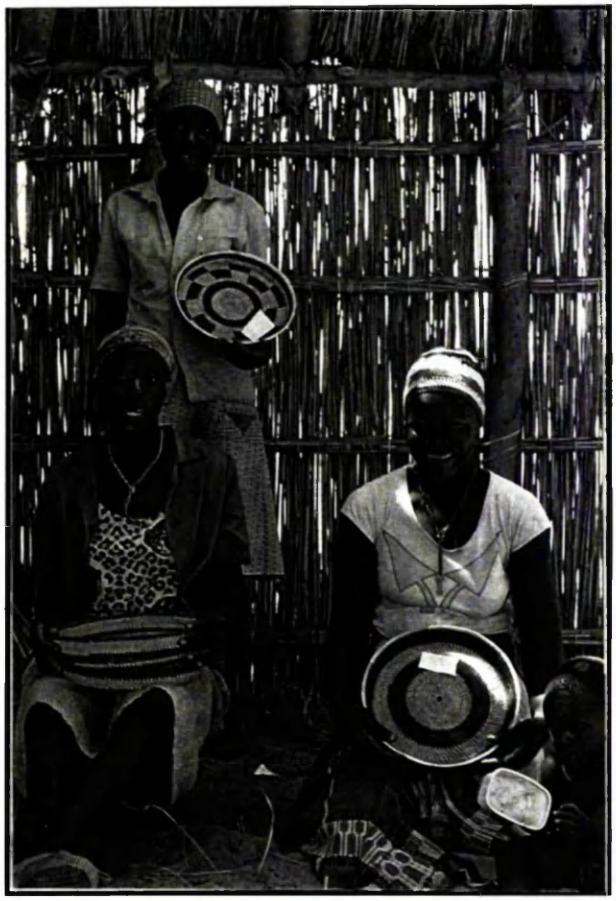
Fig. 4.2 Basketry Upgrading and Design Course



Master weaver, Mogetso Saxoba (left) from Gomare, Ngamiland checks her student's progress during a basketry upgrading course at Satau, Chobe Enclave.

Open air classroom at Satau, Chobe Enclave to improve weaving and design skills.

Fig. 4.3 Basketry: New Product Development – Trays and Wastepaper Baskets



Basketmakers from Etsha (Kashivi Kakona, Ngonda Thayenda and Tutene Pata) proudly show their new products – trays – made with their own traditional skills and raw materials.

Basketmakers from Etsha showing off wastepaper baskets 'in progress' at a New Product Development Course held at Etsha 6.

Fig. 4.4 Basketry: Collecting Natural Raw Materials

Women return home heavily loaded after collecting Hyphaene petersiana (*mokola*) palm leaves.

Kashivi Kakona from Etsha 5 knocks off the bark of Euclea divinorum (*motlhakola*) roots. Once she returns home she will pound the bark and use it to dye palm leaves a dark brown colour.

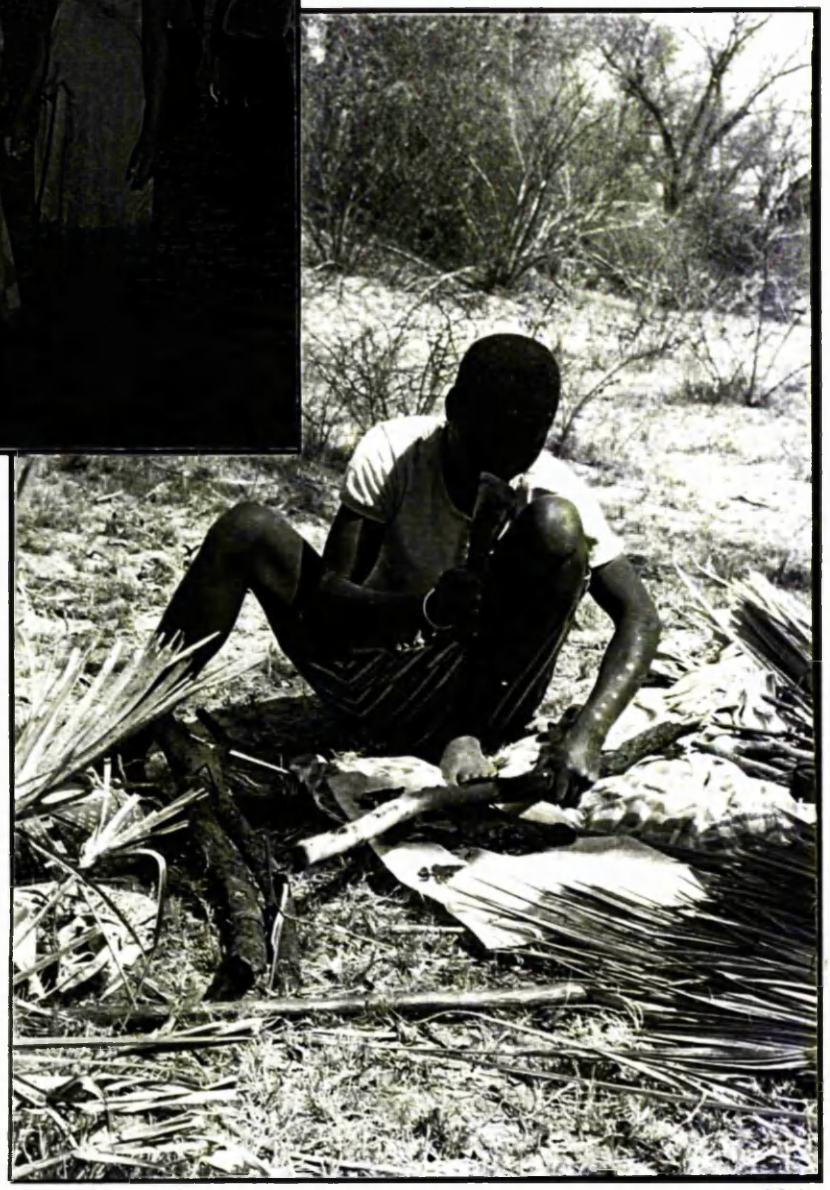


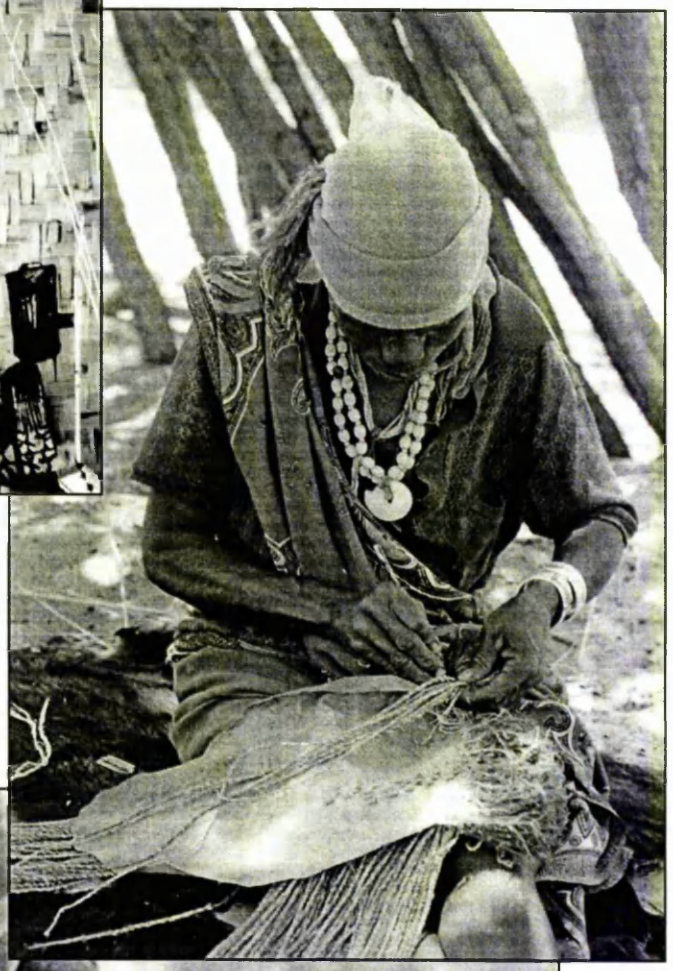
Fig. 4.5 Basketry: Cultivating Hyphaene Petersiana Close to Home

Basketmakers from Etsha inspect their Hyphaene petersiana pilot cultivation plot, which they have planted to ensure a supply of palm leaves closer to home.

Basketmaker, Muve Njunga from Etsha 12, showing off the Hyphaene petersiana palm plants that she grew inside her compound from seeds. By having palm close by, she will no longer have to take the arduous five-hour journey to find palm in the bush.

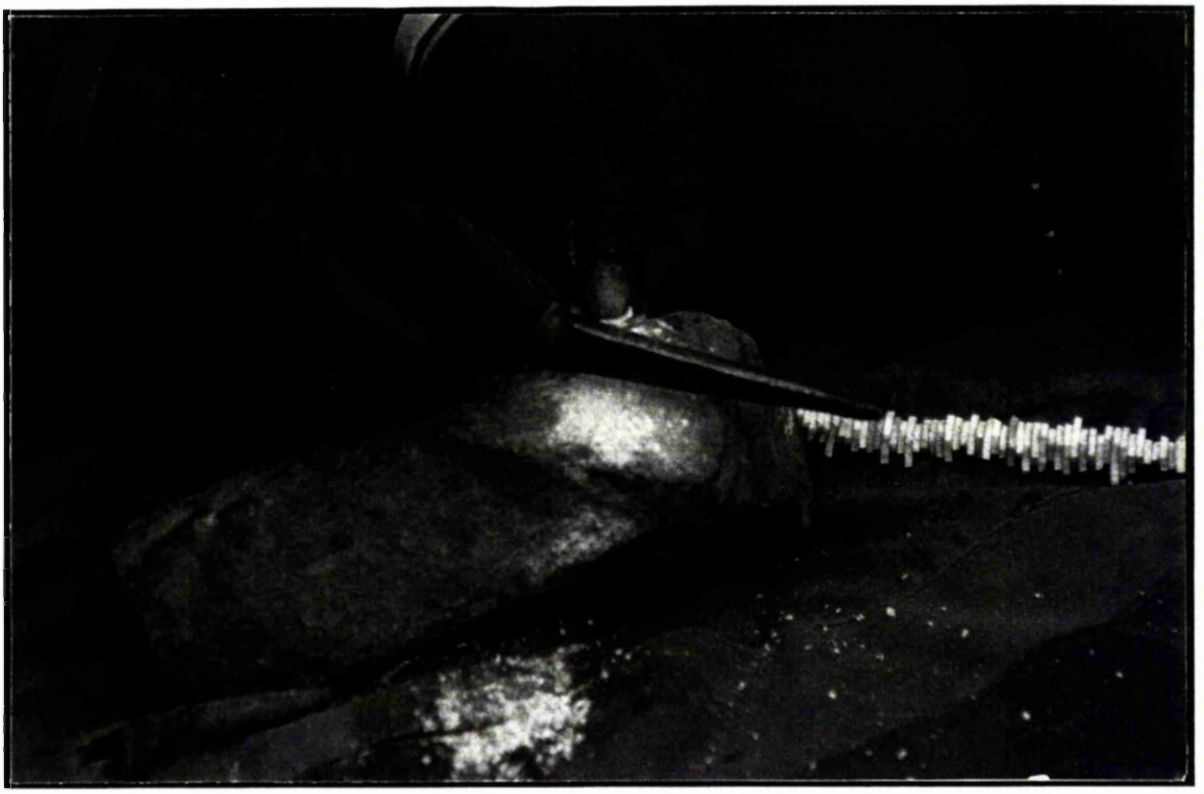
Fig. 4.6 Basketry: Mbukushu Wigmaking

Mbukushu wigs, beadwork, thumb pianos and a Phragmites australis sleeping mat on display at the Gaborone International Trade Fair

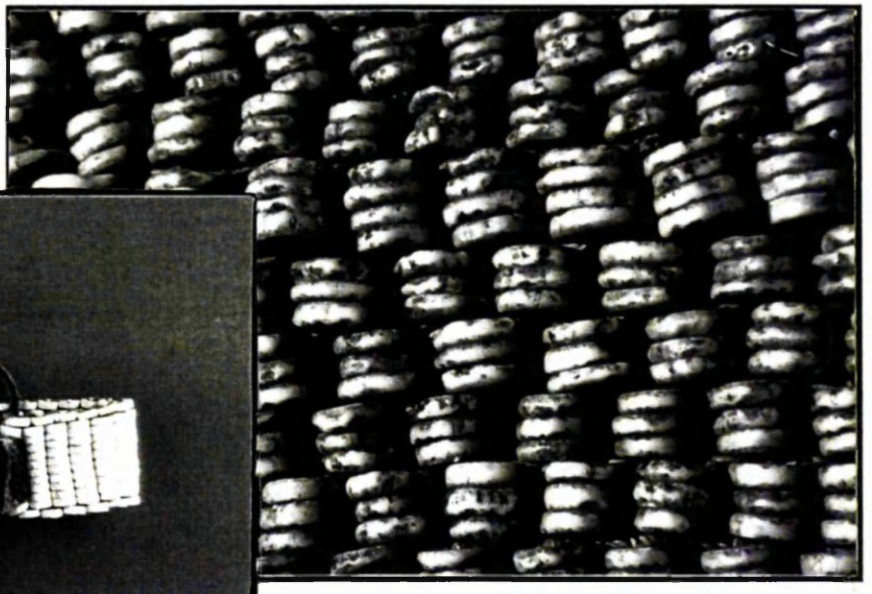


Wigmaker, from Etsha, carefully stitches twisted strands of Sanseveria desertii leaf fibre and Terminalia sericea bark fibre into a skin backing to make a wig.

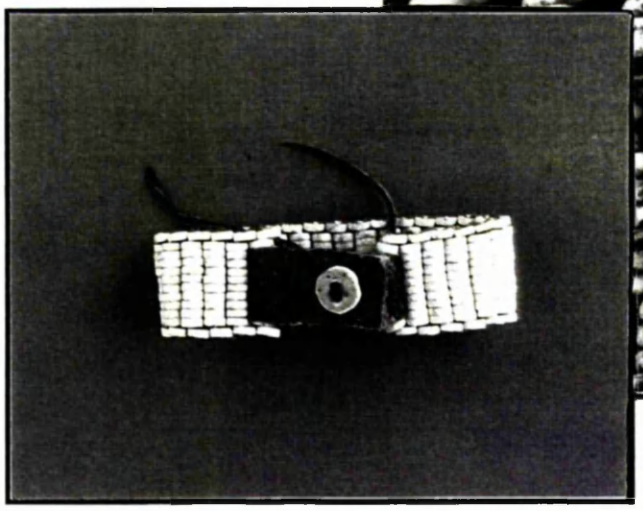
Fig. 4.7 Beadwork: Bushman Ostrich Eggshell Products



A Bushman woman in Ukwi, Kgalagadi District carefully shapes pieces of ostrich eggshell into small beads.



Close-up of an ostrich eggshell beaded belt.



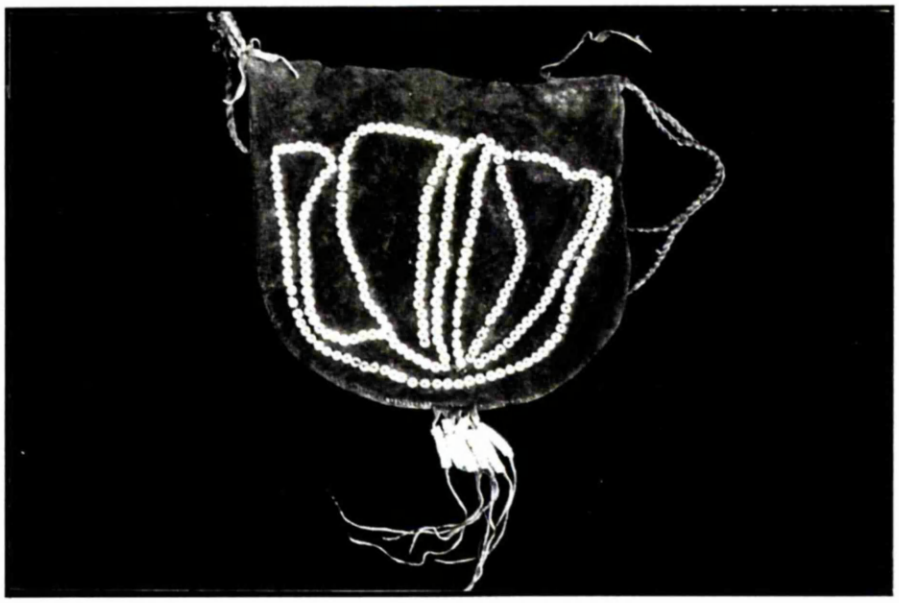
Bracelet made from ostrich eggshell beads with a springbok skin catch.

Fig. 4.8 Bushmen Selling Beadwork and Bows and Arrow Sets

Bushman women wait to sell tortoise shell 'powder puffs' decorated with glass and ostrich eggshell beadwork and glass beaded necklaces at Nxainxai, western Ngamiland District.

Bushmen selling bow and arrow sets to Gantsi Craft in Ghanzi District.

Fig. 4. 9 Bushman Skinwork

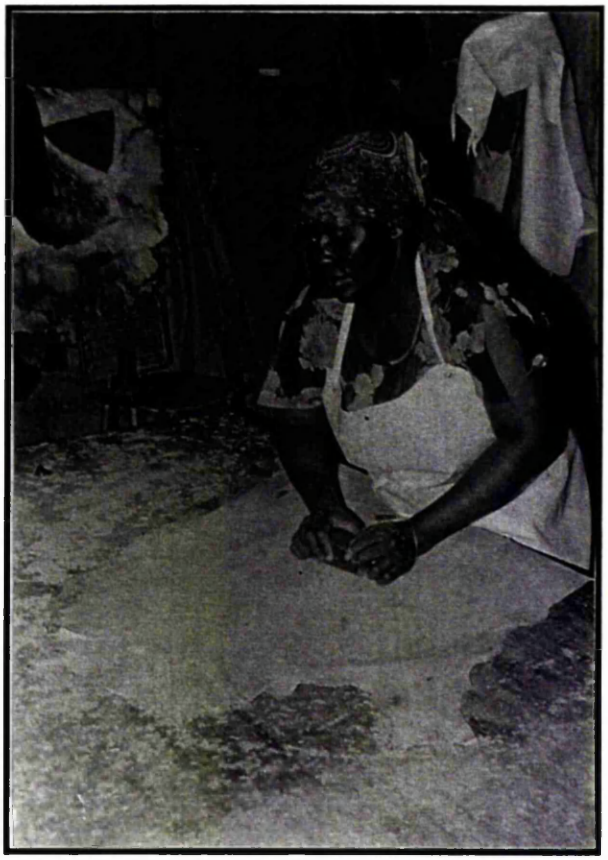


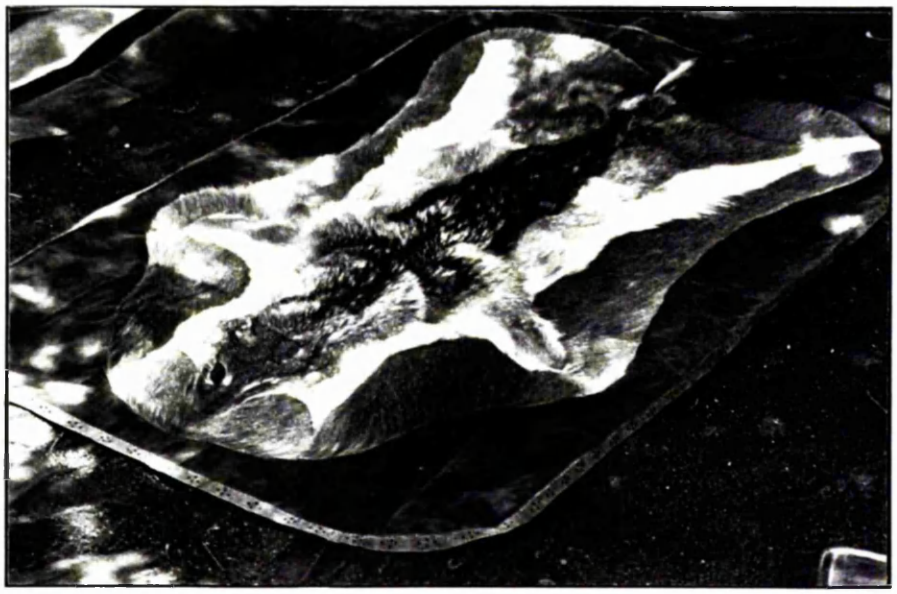
Traditional Bushman bag made from springbok skin and decorated with ostrich eggshell beads. Made in Xade, Central Kgalagadi Game Reserve.

Traditional Bushman hunting set, complete with bag made from a whole duiker skin, spear, bow, digging stick, and a quiver full of arrows and fire starting sticks. Made by Xhere who recently moved from Xade in the Central Kgalagadi Game Reserve to New Xade outside of the Reserve.

Fig. 4.10 Traditional Skinwork

A woman works a goat skin at Mabutsane Tannery in Southern District. Vegetable tanning methods are used here with Elephantorrhiza elephantina (*motsetsane*) roots, lime and salt as the main tanning agents.

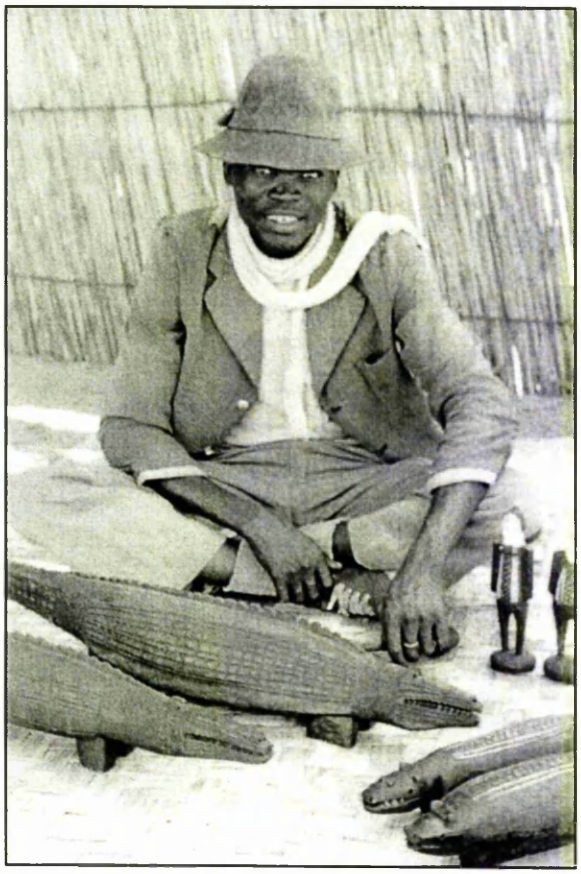




Skinmat made from a black-backed jackal near Shoshong in Central District. Most of these products are sold to Shoshong Development Trust

Fig. 4.11 Woodcarving in Etsha

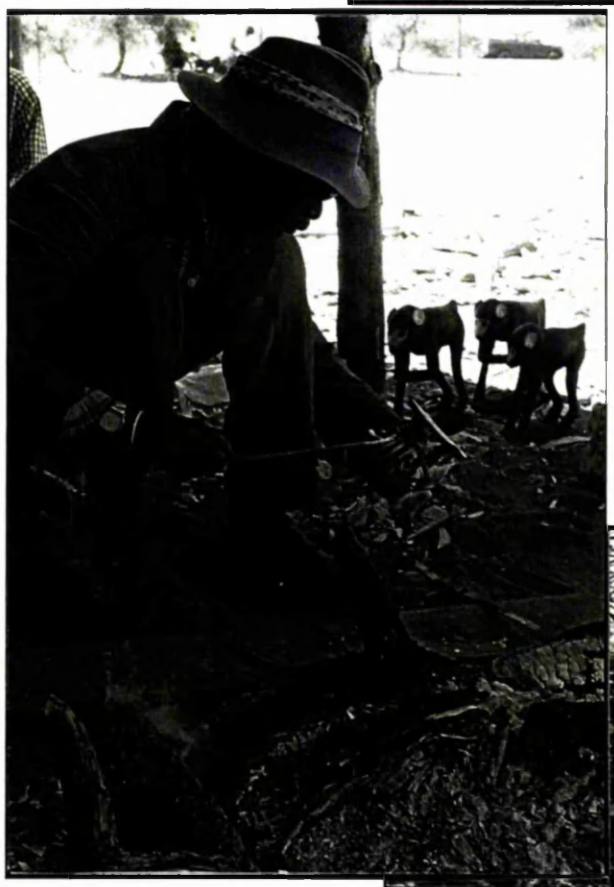
Woodcarver, Julius Ruvero of Etsha 9, incising designs into a wooden crocodile, while his elderly assistant works the bellows to heat the incising tools.



Woodcarver, Julius Ruvero of Etsha 9, displaying his carved crocodiles, hippo, and two figurines titled, Mr. and Mrs. Masire.

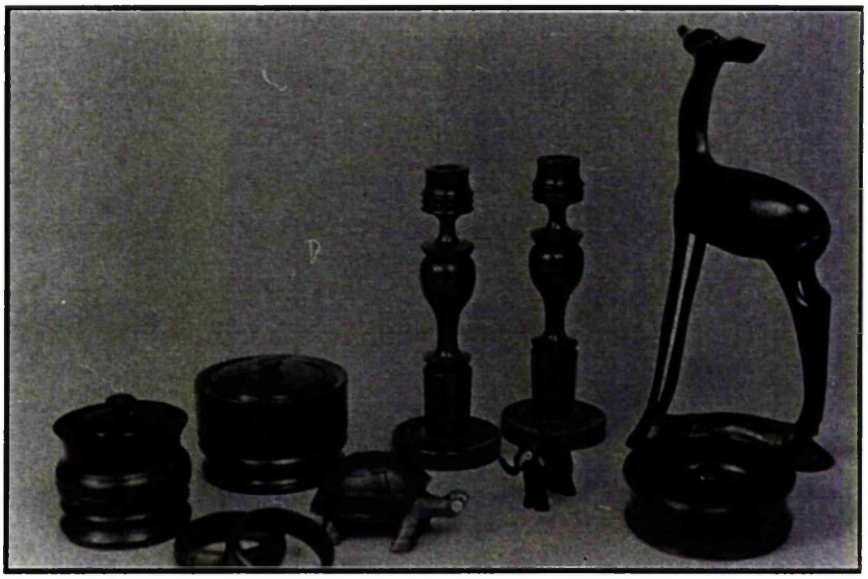
Fig. 4.12 Woodcarvers from the Shashe Area

Woodcarver carving out a traditional stool with an adze.

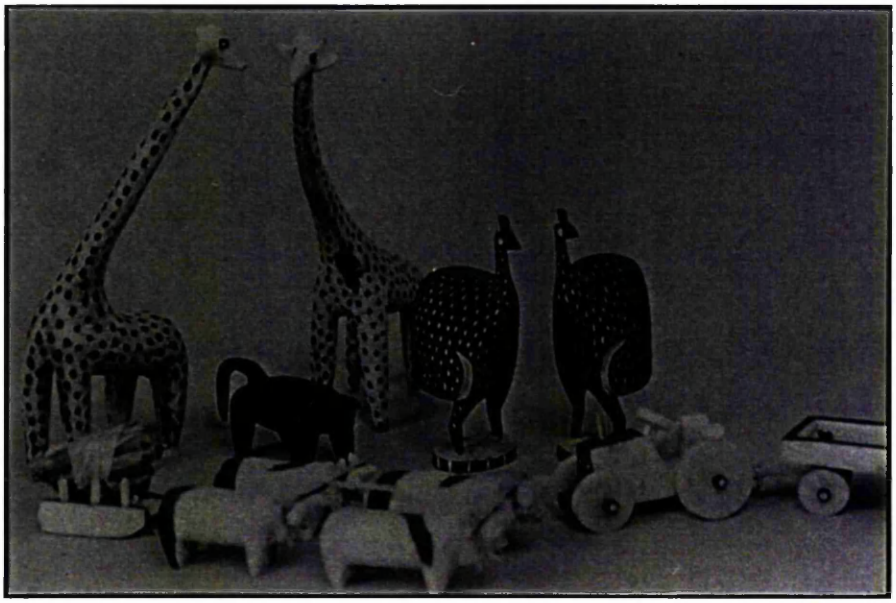


How the zebra gets its stripes and the leopard and giraffe get their spots: Shashe woodcarvers burn in the patterns.

Fig. 4. 13 Woodcarvings from Shashe and Thamaga

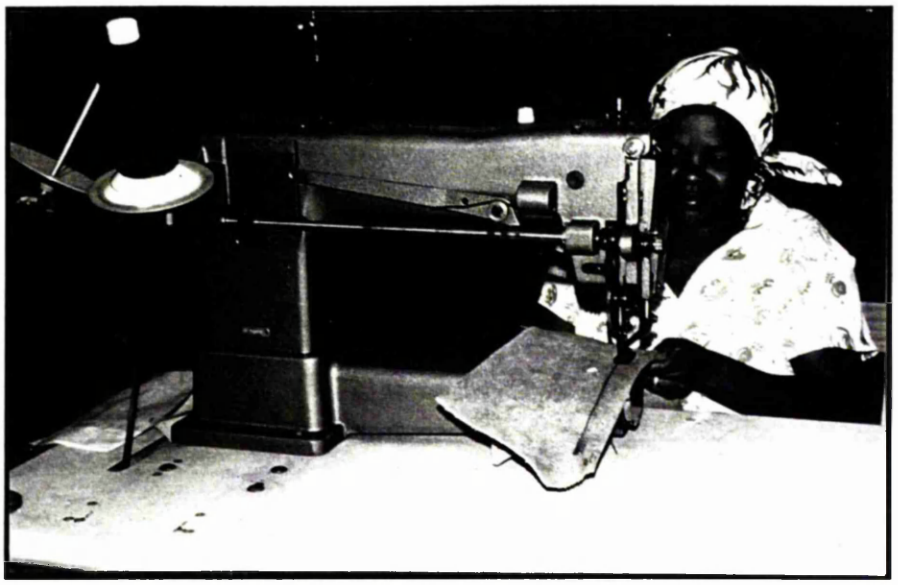


Woodcarvings made from Colophospermum mopane (*mophane*) around Shashe in Central District. The sugar pots, candlesticks, bangles and ashtray are all turned on a lathe. The animal figurines are carved out with small adzes, knives and occasionally with chisels



Animals and toys carved from softwood near Thamaga, Kweneng District.

Fig. 4. 14 Contemporary Leatherwork from Mabutsane and Pilane



A woman leatherworker at Mabutsane Tannery in Southern District uses a sewing machine to stitch a piece of goat hide.

A well-used, 15 year-old leather 'biology' briefcase from Pilane in Kgatleng District.

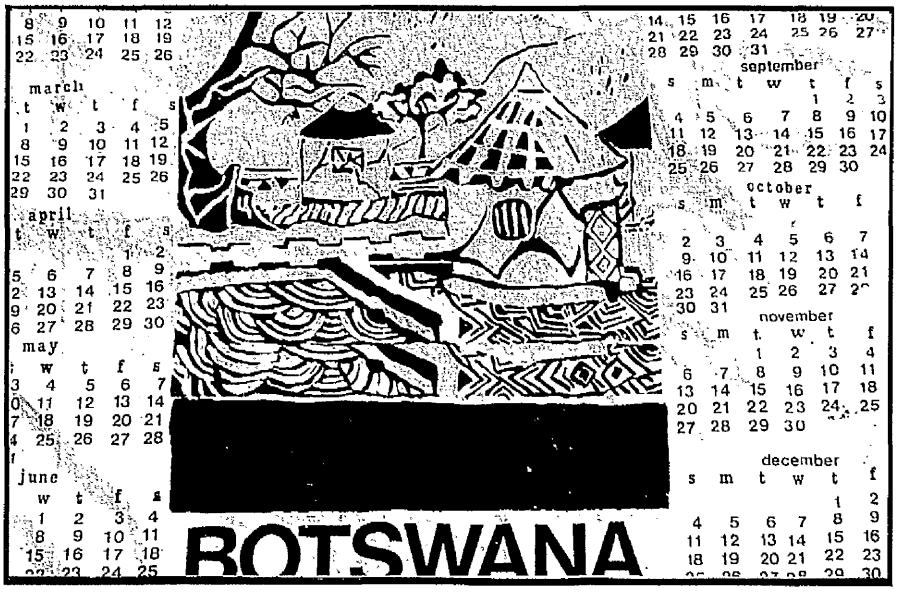
Fig. 4.15 Tapestry Weaving at Lentswe la Oodi Weavers

Close-up of a woven tapestry 'in progress' made with imported merino wool from New Zealand via South Africa. The wool is spun and dyed in bright colours with chemical dyes at the Lentswe la Oodi Workshop.

Women weaving on upright tapestry looms at Lentswe la Oodi Weavers in Oodi, Kgatleng District.

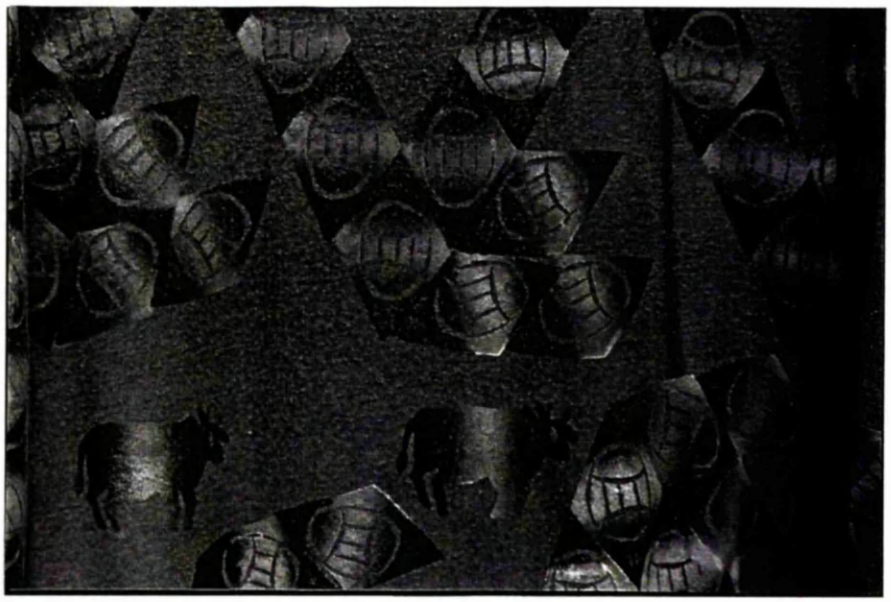
Fig. 4.16 Textiles from Marothodi Design

Zebra pattern silkscreen printed onto cotton cloth, using both reactive and pigment dyes at Marothodi Design in Francistown, North East District. Like this design, many of Marothodi's designs represent the flora and fauna of Botswana or are abstract or geometric. This particular cloth has been sewn into a very attractive full skirt

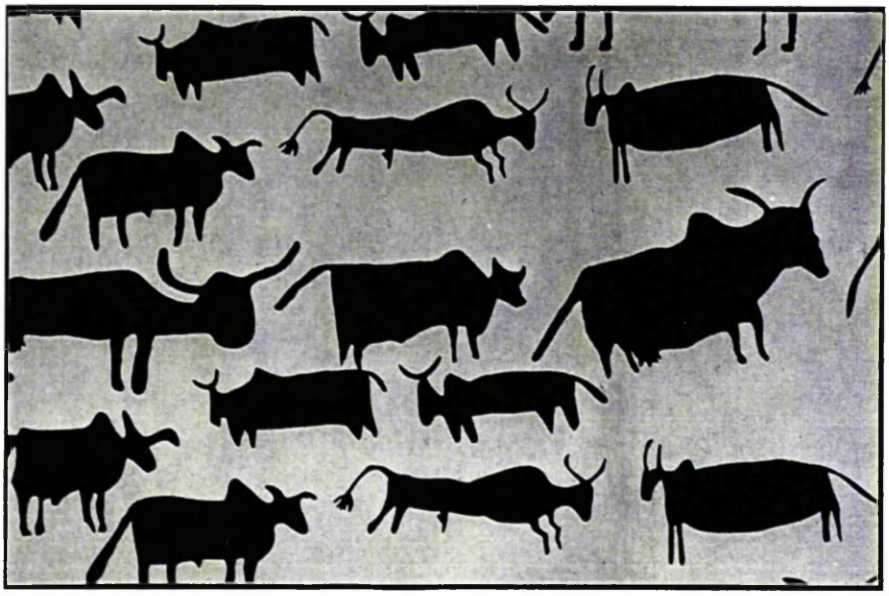


Each year, Marothodi Design creates a cloth calendar with a new silkscreen design.

Fig. 4. 17 Textiles from Mokolodi Craft and Phuthadikobo Museum



Potato print geometric and cow design on a skirt from Mokolodi Craft, Mokolodi, South East District. Each day, new designs are carved into fresh potatoes making each printed piece an original.



Cow design on a cloth wall hanging from Phuthadikobo Museum silkscreen workshop in Mochudi, Kgatleng District. The individual cows were first drawn by the children of the workers at the silkscreen workshop, and then transferred onto a silkscreen ready for printing.

Fig. 4.18 Traditional Tswana Pottery from the Mosetlha Area

Traditional Tswana clay pots from the Mosetlha area, near Kanye in Southern District

Close-up of the design etched into a traditional Tswana pot before it is fired.

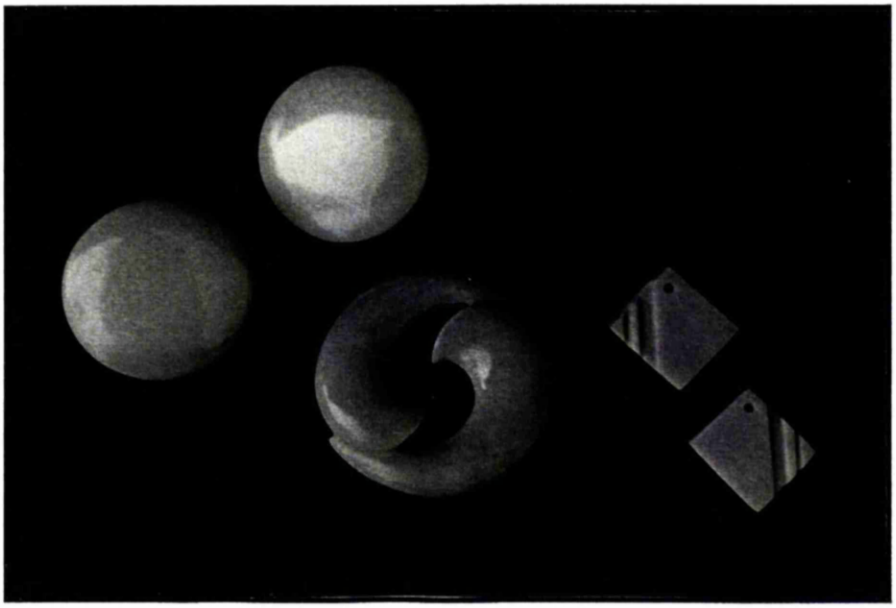
Fig. 4.19 Contemporary Potter from the Botswelelo Centre at Thamaga and Pelegano Pottery

Contemporary pottery from the Botswelelo Centre at Thamaga in Kweneng District. The ashtray, traditional-shaped pot and rondovel-shaped candleholder were all fired in a modern diesel-fueled kiln.

Contemporary pottery from Pelegano Pottery at Gabane in Kweneng District The masks, animals and pots are made with clay from Kanye, Serule and South Africa. They all shaped in molds and then fired in a modern electric kiln.

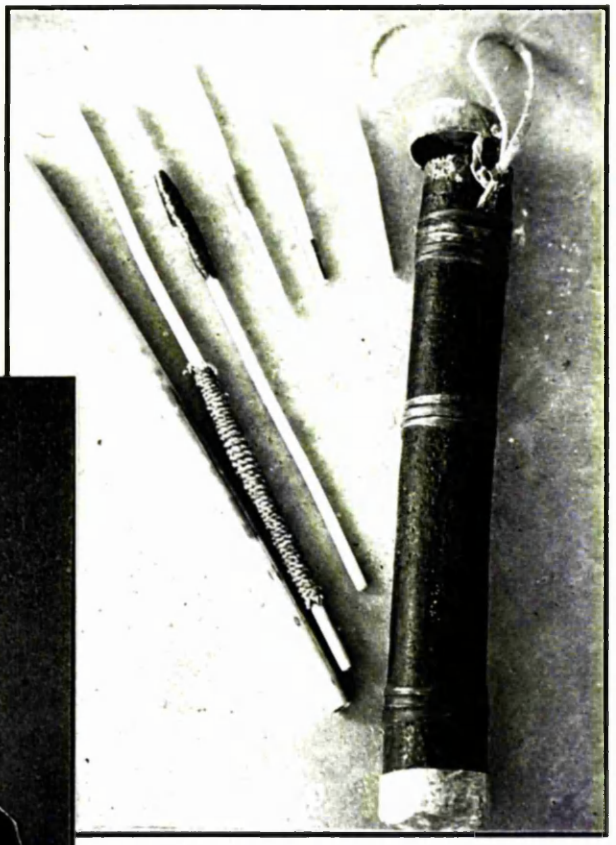
Fig. 4.20 Contemporary Jewellery from Thusano Silversmiths and from The Craftsman

Pendants and brooches cast in sterling silver at Thusano Silversmiths, Gaborone, South East District. Since the start of this study, this jewellery-making workshop has closed down.



Earrings and a pendant made from beef bone by Masilonyana Radinoga, 'The Craftsman' of Lobatse, South East District. Mr. Radinoga used to be a master ivory carver until the CITES ban on elephant products put Batswana ivory carvers out of business. He now mainly creates human figures and animal sculptures from wood, and also teaches carving and design skills to others throughout the country.

Fig. 4.21 Miscellaneous Crafts: Pelagano Incised Calabash and Bushman 'Repair Kit', Pipes and Earrings



Bushman pipes from scrap metal and steenbok leg bone, and earrings from scrap fencing wire. Made in Ghanzi District and sold to Gantsi Craft.

Bushman 'repair kit' from Ghanzi District complete with a water 'straw', spare twine, Acacia gum and arrow tips made from bone. The case is made from a whole Acacia root bark.

Incised calabash (Langenaria siceraria gourd) from Pelegano Crafts in Gabane, Kweneng District.

5. OVERVIEW OF THE RESEARCH

5.1 INTRODUCTION

The work for this thesis occurred in a series of steps and used different methodologies. Lacking national-level data on Botswana's craft industry, lists of craft producers, production units and marketing outlets had to be first compiled from general knowledge. National and district maps were also prepared to establish location. The lists were converted into sample frames and a sample of individual craft producers, production units and marketing outlets were surveyed using quantitative methods. This information was compiled and analysed using certain statistical methods. Information from the surveys and other secondary sources was then used to prepare 21 financial and economic models. The handicraft sector data was compared with available information on other non-farm, small-scale, income-generating activities. Finally, recommendations for policy and action in support of the handicraft sector were made. This chapter describes these steps in detail.

5.2 PREPARATION OF PRODUCER LISTS

Although a few craft studies have been conducted on specific geographical areas (see Terry 1984b, 1986b, 1988 a, c, d, 1991b; Vulcano 1985; White 1986a), up to the time of this study (1990–1992),[1] no national data had been collected specifically on the Botswana handicraft industry. If craft producers were counted in any national-level studies, they were typically absorbed into groupings such as 'manufacturers' or 'informal sector', depending on the parameters of the study.

To prepare for the survey work, as noted in Chapter 4, several lists were created to classify Botswana's producers (Appendices 4.1 to 4.7). A relatively small population of craft producers, and knowledge gained from seven years of work and research experience in the Botswana handicraft sector made it possible to prepare these lists. The first draft was based on the different producers marketing crafts to Botswanacraft Marketing

[1] At the time of finalising this thesis in 1999, this study still represents the only national-level study conducted on the craft industry of Botswana. For example, a 1999 publication by the National Museum, Monuments and Art Gallery (NMMAG 1999) uses verbatim text and photographs by this author written in 1988 for a Botswanacraft promotional brochure (Terry 1988b) for the section on "Crafts from Botswana."

Company and on figures detailed in specific project reports and previously conducted district or village-level surveys. Colleagues working in the field, especially craft advisors, government Industrial Field Officers and marketers, made changes and additions. While not purporting to be definitive, these are the only available listings of their kind in Botswana and as close to a complete record as possible as of November 1992. Obviously changes will have occurred in cases where production units closed or when new people have taken up craftwork.

5.3 SAMPLE FRAMES AND SAMPLING FOR INDIVIDUAL PRODUCERS

The Appendix 4.1 list was taken to be the total craft producers' population and used as the sample frame for the individual producers' survey from which a sample was drawn. The first four columns of Table 5.1 summarise this information. As it would have been impossible – both financially and time-wise – to survey all producers, a sample was chosen. A sample can only approximately represent the characteristics of the parent population (Dixon and Leach undated), so certain sampling techniques were utilised to ensure that the sample represented that population. The population was stratified by geographical area (urban versus rural) and by ten types of craftwork (basketry, beadwork, jewellery, skinwork, leatherwork, carving, weaving, textiles, pottery and miscellaneous crafts from different resources). Stratification divides the population to be sampled into distinct groups or strata and selects a sample from each stratum (Hoinville and Jowell 1978:62). It picks up smaller groups that would be otherwise under-sampled. The last three columns of Table 5.1 list the number of producers surveyed in each stratum by craft type and geographical area. Samples were selected from each stratum by using disproportionate stratification. Collecting data by proportionate stratification would have been very costly in two strata (i.e. beadworkers and skinworkers) because of their wide dispersal and large numbers. Through disproportionate stratification, a representative sample was provided taking fewer numbers from these two groups. In contrast, a larger number of carvers was sampled because of the diverse types of crafts that fall within carving. When summary statistics were needed during the analysis stage, differential weights were attached to the sampled units to adjust for their differing selection probabilities (Hoinville and Jowell 1978:64) (see Appendix 5.1).

TABLE 5.1 TOTAL PRODUCERS' POPULATION (SAMPLING FRAME) AND NUMBER OF PRODUCERS SURVEYED BY CRAFT TYPE AND GEOGRAPHICAL AREA

	TOTAL POPULATION OF PRODUCERS			PRODUCERS SURVEYED		
CRAFT TYPE	Urban	Rural	TOTAL	Urban	Rural	TOTAL
Basketry	0	2408	2408	0	99	99
Beadwork	0	850	850	0	24	24
Jewellery	25	26	51	10	11	21
Skinwork	0	715	715	0	19	19
Leatherwork	177	149	326	22	24	46
Carving	0	238	238	0	54	54
Weaving	103	73	176	19	13	32
Textiles	35	57	92	10	13	23
Pottery	5	67	72	2	14	16
Misc. Crafts	0	33	33	0	7	7
TOTAL	345	4616	4961	63	278	341

Source: Producer lists (Appendix 4.1)

In a national survey of this nature, sampling the whole country at random would have been very costly, therefore the data collection was clustered by geographical areas. The disadvantage of clustering is that it reduces the precision of the sample. The sampling error for a given sample size will usually be larger with clustering, because people in the same area tend to be similar in respect to the survey variables (Hoinville and Jowell 1978:65). However, clustering allows for a larger sample size, which should in turn reduce the sample error. For this type of clustered design, multi-stage sampling was used. The clusters, or primary sampling units (PSUs), were specific geographical areas selected from the two strata: urban areas and rural areas. The PSUs for urban areas included: 1) Gaborone, 2) Francistown and 3) Lobatse. The PSUs for rural areas included: 1) Ngamiland District, 2) the Chobe Enclave, 3) Ghanzi District, 4) north-western Kgalagadi District, 5) south-eastern Kgalagadi District, 6) the village of Mabutsane in western Southern District, 7) north-eastern Southern District, and 8) the strip of land running from the south-east to north-east along the railway line (see Map 3.4), including Otse, Thamaga, Gabane, Mokolodi, Pilane, Mochudi, Mahalapye, Shoshong, Serowe and Shashe (see Maps 4.1 to 4.12). These areas were chosen because they were known to

have relatively high numbers of specific types of craft producers. For example, it was known that many basketmakers could be found in western Ngamiland and the Chobe Enclave. Beadworkers would be concentrated in western Ngamiland and north-western Kgalagadi District/south-western Ghanzi District. Woodcarvers could be found along the 'line-of-rail' in both the Serowe and Shashe areas. The selection of producer type by activity was then the second stage of the multi-stage sampling technique.

To survey individual producers, all formal production units in the three urban areas were approached for interviews. Within each production unit systematic random sampling was mainly used to select the individuals from a list of the production unit's workers. The first interviewee was selected by a random number and then subsequent ones according to the field sample interval (i.e. a number calculated by dividing the number of names by the sample size required from that particular enterprise). Exceptions arose in a few instances where managers insisted on picking out the employees to be interviewed, either because they were the least busy or the manager felt they would be the most articulate. However, this situation occurred infrequently and should not have had an impact on the results.

When finding producers to interview in the selected rural areas, quota sampling with a random route was used (Dixon and Leach undated:42). An enumerator was sent to a random point in a village and asked to call on all household compounds to see if a handicraft producer lived there. After a set number of producers were found and interviewed in that area of the village, the interviewer was sent on to a new point. In cases when a producer was not found at home, the interviewer returned later in hope of finding the producer. For villages with only a few producers, informants helped to find those producers. Depending on the number of producers, either all were interviewed or systematic random sampling was used to select specific producers.

It should also be noted that this sampling and interviewing process, like most social science survey work, is static, providing a profile of individuals at a particular moment in time. If a similar study had been conducted a few decades earlier or were to be conducted a few decades from now, the overall profile of the craft sector would probably change sharply. An example of this is suggested in Chapter 6 regarding the age and educational levels of the producers. However, by producing dynamic models along with

static models for the financial and economic analyses, as described in Section 5.10 of this chapter and in Appendix 5.7, the income and expenditure data from the surveys are examined over time, thus providing a longer-term picture for some aspects of the craft sector.

5.4 INDIVIDUAL PRODUCERS SURVEY

A questionnaire was designed as the survey instrument for the individual producers. To obtain as much detailed quantitative information as possible, the following components were covered:

1) Background information on sex, age, ethnicity and education
2) Production rates and practices, acquisition of skills and future training needs
3) Raw material and equipment utilisation, and problems
4) Marketing practices and problems, sale prices and turnover
5) Individual and household income earning strategies and actual household income data, the importance of income earnings from craft production including impact on urban migration and family stability
6) Income utilisation practices and household expenditures
7) Individual, local and national attitudes towards craft production in terms of producers' status, contribution to development and cultural significance
8) Overall problems, successes and failures in the handicraft industry and ways to improve or expand the industry

The questionnaire went through six revisions after obtaining advice from various researchers and conducting a pilot study. The pilot study, which took place intermittently from June to December 1990, surveyed eight urban and 18 rural producers. The pilot test covered all craft producer types except basketmakers and beadworkers due to their remote locations. Some additional questions were added after the pilot test and the final version of the questionnaire for individual producers (Appendix 5.2) was used in its entirety for producers not attached to production units. For individual producers working in production units, Question 2.9, Part 3 (Raw Material and Equipment Utilisation) and Part 4 (Marketing) were omitted from the interview. These parts were left out because individual production unit producers are not usually responsible for these activities, and therefore would have little knowledge of the topics. This accounts for the large variation in the sample size ('N') in the data tables in Chapter 6, with observed values in the sample ranging from 341 to 206. The smaller variations in the number of observed values (e.g. 341 to 330) come from the varying number of valid responses around a specific issue. In some interviews, some respondents were not asked some of the questions due

to time, refused to answer some of the questions, or provided an answer that did not make sense.

The survey work began in earnest in December 1990 and was carried out intermittently over the next 16 months until March 1992. Nineteen people were hired to conduct the survey including eight enumerators/translators, six translators and five guides. Two of the main enumerators were University of Botswana students working during holidays, while three came from the Molepolole College of Education who did the work as part of their Art Apprenticeship Programme. Almost half of the interviews were conducted by myself in English with the English-speaking producers or in the local language with the help of a translator.[2] The field work for all but 45 interviews was supervised by myself, with the remainder conducted or supervised by the three most experienced enumerators. All the enumerators and translators had ample training before conducting interviews to ensure that they adequately understood the questions and could convey both the correct meaning and emphasis when asking questions and recording responses.

The time to complete each interview ranged from 30 minutes to three hours and 30 minutes, but averaged one hour and 15 minutes. Cooperation was very good with 63 percent of the respondents exhibiting a 'high' level of cooperation, 14 percent 'medium' and only 5 percent 'low'.[3] Very few people refused outright to be interviewed, and only in six cases did the respondent stop the interview once in progress because they became tired of the process or were called away. For terminated interviews, the unanswered questions have been coded as 'did not ask'. The questionnaire was set up on an IBM compatible personal computer using SPSS/PC+ V3.0. The coding and entering of data took approximately four person-months.

Most of the data from the producers' survey have been analysed using simple cross-tabulations using two variables such as type of producer (formal or informal, rural or

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[2] My Setswana is adequate to prevent interviewees from digressing or to notice incorrect translations, but not good enough to conduct an interview alone. In parts of Ngamiland, Thimbukushu was used as the interview language, and while I am more fluent in this language, the services of a translator were still utilised. Other languages utilised in specific areas were Sesubiya and three different Bushman languages.

[3] For the remaining 18 percent, cooperation level was not noted by the enumerators.

urban, male or female) or type of craft category against the variable of interest (such as age, education, income, etc.), and then presented in tabular format. Ideally, additional cross-tabulations of more than two variables should have been done (such as type of producer and age of producer compared with educational level and with income level). However, the main objective of this thesis has been to estimate the financial and economic value of the craft sector, and time and space has not permitted this other level of detail in the data presentation of Chapter 6.

5.5 PRODUCTION UNIT SURVEY

A total of 51 formal production units was identified in Botswana at the time of this study (Appendix 5.3). Because of this small population, sampling methodology and statistical analysis were not relevant or possible. Although all 51 could not be interviewed due to cost and time constraints, the 33 surveyed (Appendix 5.3) were found in the same geographical areas covered during the individual producers survey, and represent all formal production categories. Table 5.2 summarises the total number of production units and the number surveyed by craft type and geographic area.

TABLE 5.2 TOTAL NUMBER OF PRODUCTION UNITS AND NUMBER OF UNITS SURVEYED BY CRAFT TYPE AND GEOGRAPHICAL AREA

	TOTAL UNITS			UNITS SURVEYED		
CRAFT TYPE	Urban	Rural	TOTAL	Urban	Rural	TOTAL
Basketry	0	1	1	0	0	0
Beadwork	0	0	0	0	0	0
Jewellery	7	5	12	2	3	5
Skinwork	0	0	0	0	0	0
Leatherwork	3	9	12	3	5	8
Carving	0	2	2	0	2	2
Weaving	6	3	9	5	2	7
Textiles	5	1	6	1	5	6
Pottery	2	6	8	1	3	4
Misc. Crafts	0	1	1	0	1	1
TOTAL	23	28	51	12	21	33

Source: Producer lists (Appendix 4.7)

The questionnaire used in this survey covered the following components: type of operation, numbers employed in production and non-production positions, wages, production practices and rates, training needs, raw material and equipment utilisation, assets, marketing practices, prices and turnover, expenses and income, problems and aspirations for expansion. The final version of the production unit questionnaire (Appendix 5.4) was used more as a guide rather than a precise survey instrument because the quality of financial records varied considerably among the production workshops – from audited accounts with balance sheets and income statements, to sale records kept in school notebooks. When financial statements were available, the sections on sales turnover and expenses could be completed quite easily and quickly. Where summary financial statements were lacking, invoice books, receipts and cash books had to be examined.

The 33 units were surveyed by the author with all but one interview conducted in English. Typically, the owner or manager of the unit was interviewed, although in a few cases a bookkeeper was available. The time needed to complete the questionnaire varied according to the record-keeping system on hand. For those units with financial statements, one to two hours was necessary. For others with a poor record system, up to a full day was needed to sort through the records. Only one unit manager refused to be interviewed at all, saying it was a "waste of her time and she was too busy." Only one unit refused to provide specific financial information, but answered the other questions.

5.6 MARKETING SURVEY

A listing of all known marketing outlets was compiled (see Appendix 4.8) and a questionnaire (see Appendix 5.5) was designed as the survey instrument.[4] From the sample frame of 48 marketing outlets, 39 were contacted for this thesis and 31 of these responded. Personnel interviews, usually with the owner or manager, were conducted with 23 of the outlets, while the other 16 had the questionnaire sent to them. Of these 16,

[4] This marketing survey commenced originally as part of a consultancy study I undertook for the Botswana Christian Council (BCC) and the Ministry of Commerce and Industry (MCI) in November 1990 (see Terry 1991b). About half of the marketing outlet surveys were conducted during this consultancy. Because the study focussed on the production and marketing of Bushman crafts, the last page of the questionnaire concentrates on Bushman crafts. Rather than re-surveying the outlets for this thesis, the same questionnaire was utilised for the remaining outlets and the data from all the outlets were compiled.

four managers responded immediately, four replied after a polite reminder was sent out, and eight never responded. Of the 31 that did respond, two had closed down and were not able to provide the needed information, therefore data are available on 29 marketing outlets. However, three refused to provide sales figures, thus, 'full' information was available on only 26 marketing outlets.

In addition to this marketing survey, another source of information has been used to enhance the thoroughness of the study. In late 1987, Ngamidata Services of Maun was contracted by Botswanacraft and !Kung San Works to undertake a survey of safari camps and lodges that were located in or near the northern tourist areas of Botswana (i.e. Okavango Delta, Moremi Game Reserve and Chobe National Park). The primary focus of that study was to ascertain whether any of the operations were already buying and selling crafts, if so, where they were obtaining the crafts, and whether they would be interested in retailing crafts for Botswanacraft or !Kung San Works. In total, 27 operations were contacted. Seven did not want to be interviewed, either because they did not sell crafts and had no intention of selling crafts in the future or because they felt the information was confidential. Five agreed to be interviewed but for some unknown reason were never interviewed. The 15 interviews were conducted in English by a computer specialist/tourism consultant during the period March to August 1988. Typically, the camp/lodge manager was the person interviewed. Although no compiled report was available, permission was given to utilise the raw data, and although somewhat outdated, key points have been analysed and incorporated into this study. Of the 15 safari operations interviewed in 1988, four were interviewed subsequently for this thesis. Duplication was not a problem because the interview questions in the two surveys differed significantly.

5.7 NATURAL RESOURCES DATA COLLECTION

Until this thesis, no comprehensive, systematic recording of natural raw materials used in handicraft production had been undertaken for the whole of Botswana. Information had been collected irregularly and informally by this author since 1982, both in the field and from a few written sources (Heinz and Maguire undated; Silberbauer 1981; Cunningham and Milton 1982, 1987; Coates Palgrave 1983; Campbell and Hitchcock 1985; Cunningham 1988, 1992). In the field, this information has been collected by

observation, by informally interviewing craft producers, craft development advisors, professional botanists and lay botanists, and from running many craft production courses where the materials are processed and employed in the craftmaking. About one-quarter of Appendix 4.9, which details the raw material information in tabular form, was collected before the start of this thesis. The remainder was collected purposively for this thesis. Much of it comes from the individual producers' questionnaire; however, the informal process of observation and questioning continued throughout the duration of the study. Once the tables were compiled, they were passed on to several southern African botanists, ecologists and foresters for confirmation, corrections and additions. Although this information has been compiled with care, the collection should only be seen as a beginning and further research is necessary.

5.8 UNSUCCESSFUL DATA COLLECTION

As an experiment, one aspect of this study was an attempt to set up an index-card recording system to collect data over a one-year period from selected producers regarding the quantity of items produced, prices, quantity sold, total amount of sales, point of sale and types of buyers (Appendix 5.6). Producers would be asked to complete cards on a monthly basis. The intention was to have the system set up and monitored by the author, but supervised by extension advisors working in the field. A pilot test was conducted with individual producers who participated in a bone-carving course at the Rural Industries Innovation Centre (RIIC) in Kanye, with the intention of monitoring their rate of production and marketing success in selling this new type of craft product. If the system worked for new bone-carvers, it would be replicated for other types of producers. After a few months, however, the pilot test was considered a failure and the system deemed too difficult to continue with other producers. The difficulties were on all sides. Some producers were not interested in recording their production and sale rates, or found the task impossible and therefore never completed the cards. Others completed the cards, but errors were common. It became difficult and time consuming to track down advisors who were willing to help; and for those who were willing, imposing on their already busy schedules became awkward. Some producers did manage to return completed cards, which were accurate in appearance, without any supervision. Unfortunately, due to the author's other commitments, a timely response to these producers was impossible. New

monthly cards were often sent late. Eventually enthusiasm waned on all sides, the system collapsed and was not replicated for other producers.

Another research idea was to examine the tax records of individual production and marketing companies at the Department of Taxes to verify some of the information from the questionnaire surveys. This plan was abandoned for two reasons: 1) one needed to work through a very bureaucratic web to receive permission from the tax department and 2) the possibility that the information given to the tax department on sales, expenses and income may not be accurate due to 'creative accounting'.

5.9 INFORMAL DATA COLLECTION

Informal interviews were conducted during the period that the author was working with producers in Botswana from 1982 to 1996 – long before this specific study began and for this specific study – with officials from various government departments, NGOs and businesses. A variety of issues have been discussed that are important to the craft industry in relationship to development, employment, income-generating possibilities, culture and tourism. Ideas and conclusions arising from some of these conversations have been incorporated, both intentionally and sometimes perhaps unconsciously, into this thesis.

5.10 STATISTICAL, FINANCIAL AND ECONOMIC ANALYSIS

Specific statistical, financial and economic analyses have been conducted for this thesis. Basic analyses such as frequencies, percentages and indicators of central tendency (e.g. mean, median or mode) were most commonly used throughout the analysis process. Other statistical analyses employed were: Chi-square, correlation coefficients, Student's t-test and Analysis of Variance (ANOVA). See Appendix 5.7 for detailed information on these analyses, including examples of reporting formats for statistical conclusions.

Financial and economic cost-benefit analyses have been conducted at the craft enterprise and sectoral levels (through a marketing model), and at the non-craft enterprise level. The financial prices reflect the viewpoint of the individual, such as a producer or an enterprise investor, while the economic values consider the nation's or society's perspective. This process of using cost-benefit analysis for financial and economic appraisal, takes this study beyond a simple 'price times quantity' measure of the benefits arising from a given product or service (Gittinger 1982:22). This method very effectively allows for

comparisons between the craft and MSE sectors and with other Botswana enterprises in the medium- and large-scale industrial sectors and with the wildlife and agricultural sectors, because cost-benefit analysis is frequently used in these sectors, is the method of analysis for Botswana's FAP appraisal system and is well understood by district and national-level planning officers. About 40 percent of the cost-benefit analyses were done on informal sector and some cases 'subsistence-level' producers. Cost-benefit analysis is equally useful as a tool to measure the costs and benefits or return on investment for this level of production as it is for a more sophisticated level. Rural farmers, just like owners of formal sector manufacturing enterprises, make daily decisions about what they are going to do, what do they need to put into it, and what will they expect to gain from it (should I go in the field and weed? should I sit at home and work on my basket weaving? should I go and collect thatching grass?). It could be argued that the difficulty of valuing costs and benefits in the informal sector makes it inappropriate to apply cost-benefit analysis procedures, which can be value-sensitive. For this thesis, however, the unique database derived from the rigorous producer survey has provided a set of financial and economic values that are eminently suited to this type of analysis. (See Appendix 5.7 for further explanation on the reasons for using this financial and economic analysis method for this thesis.)

The analyses for the craft sector have utilised empirical data taken from the survey findings, while the data on the non-craft enterprises have come from small-scale enterprise studies and financial reports of specific enterprises, with some field interviews to complement the secondary information. Depreciation, interest, shadow prices, foreign exchange premium, discount rate and other economic conversion rates have all been obtained from Botswana's central planning authority, MFDP, and MCI. Detailed assumptions about these can be found in Appendix 5.7.

Static (one year in full production) and dynamic (over five and ten years) models for both financial and economic analyses have been developed. Financial static models have resulted in Net Cash Income figures and have been used to calculate Return on Investment Ratios (ROI) or Net Cash Income to Total Capital Investment ratios. Economic static models have resulted in Net Economic Benefit and Net Value Added figures, and reflect the gross and net value added contribution to national income. The following ratios have also been calculated: Net Economic Benefit to Total Initial Capital Cost, Net Value Added to Total Initial Capital Cost, and Capital Cost to Employment Opportunity Created. The financial dynamic models have been used to estimate financial

Net Present Value (NPV) before consideration of financing costs, Financial Rate of Return (FRR), financial Benefit/Cost (B/C) Ratio, and financial Net Benefit-Investment Ratio (N/K). Similarly, the economic dynamic models provide estimates of the economic NPV, Economic Rate of Return (ERR), economic B/C Ratio and economic N/K Ratio.

These analysis measures are tools for assessing the worth of the different income-generating activities considered in the thesis, and allow comparison between the different individual activities, and between the craft and non-craft sectors. They are used together with non-quantitative and non-economic criteria. Being discounted, these measures allow for comparison over various time spans and some can be used to compare enterprises of different sizes. There is no one best technique for measuring enterprise worth, therefore all these measures are used in conjunction with one another (Gittinger 1982:299–300).

For example, NPV is particularly useful for comparing two mutually exclusive alternatives when the investment and lifespan are the same for each alternative. Of the four measures, NPV is the only one that gives the magnitude of net benefits. However this 'magnitude' measure cannot be used for ranking all acceptable alternative projects, because it would discriminate against small enterprises in favour of large ones, even if both are financially and economically acceptable. On the other hand, the B/C Ratio is specifically designed to compare enterprises of very different sizes. However, it may discriminate against projects with relatively high gross returns along with high operating costs, because these would lead to a B/C Ratio close to one, even though they may have greater NPVs than alternatives with higher B/C Ratios. Like the B/C Ratio, the IRR can indicate which enterprise contributes most to national income relative to the resources invested. However, without knowing the NPV, the IRR calculation cannot indicate that a project with, for example, a 25 percent IRR, contributes more to the national economy than a project with a 15 percent IRR. In contrast, the N/K Ratio is the only measure that can be used with confidence to rank independent projects. It can determine in which order projects should be undertaken, when there are limited investment funds. Selecting independent projects in order of their N/K Ratio maximises the return per unit of available investment, while maximising the NPV of a group of projects (Gittinger 1982:349–51).

Detailed explanations of these various financial and economic analyses can be found in Appendix 5.7. Specific descriptions and assumptions for the models, as well as the models themselves, can be found in Appendix 7.1.

6. BOTSWANA'S HANDICRAFT SECTOR: RESULTS OF THE SURVEYS

6.1 INTRODUCTION

The previous chapters have provided background and theoretical information on crafts and development, background information on Botswana and its handicraft sector, and the methodological framework for the research. The next six chapters deal with reporting, interpretation and analysis of the data collected specifically for this thesis.

The first part of Section 6.2 provides background information gained from the survey on individual producers, including a demographic profile of the individual producers and their households, production practices, raw material and equipment utilisation, and marketing practices. Financial information from household-level income and expenditure data provides a base for assessing the sector's financial impact on the individual producers and their households. The rest of Section 6.2 outlines the evidence supporting the argument that the sector provides social benefits including producers' impressions about other people's attitudes towards the sector and crafts' contribution to development and culture. Section 6.3 examines the production unit survey, including background information and data supporting the hypothesis that crafts are both financially and socially profitable. Section 6.4 describes the marketing outlets providing key support to the individual producers and the production units. Section 6.5 summarises the respondents' own assessment of their businesses by listing and prioritising their problems and possible solutions. Section 6.6 concludes the chapter by highlighting key findings essential to the thesis arguments.

In many of the tables, ten different craft categories are indicated. These are the categories studied, and they are defined in Appendix 1.2. As mentioned in Chapter 5 much of the data has been analysed using statistical methods to indicate the significance of observed variations and correlations. In this chapter, the results of each analysis are reported in the table notes and footnotes. Refer to Appendix 5.7 for detailed explanations on methods used.

6.2 INDIVIDUAL PRODUCERS

6.2.1 Demographic Profile of Individual Producers

From the individual producer survey (Appendix 5.2), a profile of producers was developed with details on age, education, ethnicity and spatial movements. Information was also captured on the individual producers' households, including size, gender of household head and the number of producers heading households. This picture provides the social backdrop needed for assessing the social and financial impact of the craft industry. As already mentioned in Chapter 5 on methodology, it must also be recognised that this type of research inherently leads to a snapshot picture describing the particularities of the researched sample at a given time and place.

Information on the age of producers (Table 6.1) indicates the level of 'stability' and helps to predict the sector's future. If there are enough young producers, presumably crafts will continue to be produced and the sector will flourish. The largest percentage (27 percent) of surveyed craft producers fell in the age category of 31 to 40 years old. The proportion of young adults (age 21 to 30 years old) was slightly greater at 19 percent than the over 60 group at 15 percent, suggesting that crafts are not the work of only older producers, as is often thought (Kathuria *et al* 1988:v; Maseko 1990:43; Kuru 1995:14).

Table 6.1 also highlights a difference in age between producers who make traditional crafts compared with those who create contemporary products. The traditional handicrafts of basketmaking and beadwork are dominated by producers between the ages of 31 and 40, while skinwork and carving attract the older age group, 41 to 50. In contrast, the modal age of producers working in all but one contemporary category is 21 to 30. This is not surprising, and only reinforces the idea that older people remain at home 'carrying on the traditions', while young people move to towns looking for jobs, and here, find formal employment in craft production units.

Some craft advisors and buyers in Botswana believe that young people are no longer interested in traditional crafts, and therefore, traditional handicraft production could die. Although the data might suggest that few very young people (under 21) are working with traditional crafts, one should be wary of drawing the drastic conclusion that traditional crafts will disappear. While no children were interviewed for this study, several very young children (six or seven years old) were observed learning how to weave baskets or carve wood. Furthermore, a quarter of the beadworkers surveyed fell into the 21 to 30-year-old age group. Data from two studies undertaken in the mid-1980s revealed that

middle-aged women dominated traditional basketry rather than old people (Terry 1984b:11, 1986b:10). Thus, the data collected on beadworkers and basketmakers show that not only old people make crafts. The picture for woodcarving and skinwork is bleaker. Over two-thirds of the producers in each category are over 41. Indeed, there is danger that these skills will be lost if they are not passed on to young people. If more youths are encouraged to take up craft production, the potential of the sector to absorb them exists, and the result would be important, both socially and economically.

TABLE 6.1 PERCENTAGE OF PRODUCERS IN DIFFERENT AGE AND CRAFT CATEGORIES (N=341)

	AGE					
	15-20	21-30	31-40	41-50	51-60	OVER 60
CRAFT CATEGORY						
ALL PRODUCERS	2	19	**27**	21	16	15
TRADITIONAL CRAFTS	2	16	**25**	23	18	16
Basketry	2	12	**31**	16	16	23
Beadwork	0	25	**29**	21	21	4
Skinwork	0	16	11	**42**	21	10
Carving	0	9	24	**33**	13	21
CONTEMPORARY CRAFTS	3	**32**	31	13	8	13
Leatherwork	4	**39**	33	13	2	9
Weaving	0	**50**	22	13	12	3
Textiles	0	**57**	22	13	4	4
Pottery	13	**44**	25	6	6	6
Jewellery	19	**38**	33	5	5	0
Misc. Crafts	0	0	**43**	29	28	0

Source: Individual Producers Questionnaire

Notes: When a respondent did not know their age or could not provide an 'Omang' identity card, the enumerator estimated the respondent's age by observation. The percentage in **bold** in each row represent the modal age group for each craft category. Age differences for traditional and contemporary producers are significant at the .05 level, p = .0034 (Chi-square = 17.66, d.f. 5), cc = .22. For the ten craft categories = n/a.

Over half the producers (59 percent) have not participated in any type of educational programme, while 66 percent of the producers have had no formal education (Table 6.2). Only a minority (about five percent) have progressed beyond primary school. These statistics are not surprising, because craft production in developing countries is often the work of uneducated people who have limited opportunities for other work (Jules-Rosette

1985:82; Kathuria *et al* 1988:33).[1] Furthermore with 52 percent of the sample over the age of 40, it is reasonable to assume that formal educational opportunities for these people were not as great or seen as important in the 1940s and 1950s when they would have been at the age to be in school, in comparison to the opportunities for the younger respondents. If a similar study was to be conducted one or two decades from now after Botswana's 'education for all' campaign produces its full impact, presumably the educational profile would change significantly, leading to a greater percentage of respondents having a formal education with possibly more opportunities to find work in the formal craft sector or in other aspects of the formal economy. In fact, this change in the educational profile of Botswana's citizens would most likely have a significant impact on the overall profile of the craft sector, particularly around the total number of producers and percentages of producers working in the traditional/informal sub-sector compared to those in the contemporary/formal sub-sector. Nevertheless, at the time of this survey in the early 1990s, several respondents mentioned that they were making handicrafts because they had no education for any other type of work, and therefore during this decade the craft sector's capacity to absorb uneducated people is clearly a significant social and economic feature.

Looking in detail at the different categories of craft producers (Table 6.2), the majority of traditional producers have had no education compared with producers making contemporary crafts. Skinworkers are the least educated, followed by beadworkers, basketmakers and carvers. The contemporary categories, except miscellaneous, appear in stark contrast to the traditional producers. A similar pattern appears when comparing the educational levels of rural and urban producers. For rural producers, 63 percent have had no education, 27 percent have attended primary school, and three percent have gone on to secondary school. In contrast, all the urban producers have had some formal education, with 65 percent having attended primary school only, and the remainder having received at least some secondary education.[2] There is no significant difference between the educational levels of men and women; about 60 percent of each have no formal education, while about 30 percent have some primary schooling.

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[1] In Botswana, the exceptions include the skilled artisans and managers in contemporary, urban production units. Managers tend to have at least a Junior Certificate (i.e. finished junior secondary school) and some have O-Levels (i.e. finished secondary school). During the survey, the highest educated respondent was a textile designer with two years of university training in design.

[2] The comparison of educational levels of rural and urban producers is significant at the .05 level, $p = .0000$ (Chi-square = 61.20, d.f. 4), cc = .38.

TABLE 6.2 PERCENTAGE OF PRODUCERS IN DIFFERENT EDUCATION LEVELS AND CRAFT CATEGORIES (N=341)

	EDUCATION LEVEL						
	NONE	SOME NON-FORMAL	ST. 1 – 3	ST. 4 – 7	FORM 1 – 2	FORM 3 – 4	MORE THAN FORM 4
CRAFT CATEGORY							
ALL PRODUCERS	**59**	7	9	20	4	<1	<1
TRADITIONAL	**69**	8	**8**	14	1	0	0
Basketry	**61**	10	10	17	2	0	0
Beadwork	**79**	4	4	13	0	0	0
Skinwork	**85**	5	5	5	0	0	0
Carving	**56**	9	22	13	0	0	0
CONTEMPORARY	12	4	14	**50**	16	3	1
Leatherwork	2	2	7	**67**	17	5	0
Weaving	9	3	16	**44**	22	6	0
Textiles	4	0	4	**74**	14	0	4
Pottery	19	0	25	**44**	12	0	0
Jewellery	19	5	5	24	**43**	4	0
Misc. Crafts	57	0	**29**	14	0	0	0

Source: Individual Producers Questionnaire

Notes: Standards 1–7 are primary school educational levels, Forms 1–2 represent junior secondary school and Forms 3–4 are senior secondary school levels. The percentage in **bold** in each row represents the modal level of education for each craft category. For traditional and contemporary producers, highly significant at .05 level, p = .0000 (Chi-square = 106.89, d.f. 8), cc = .48. For ten craft categories = n/a.

Overall, Botswana's craft production is dominated by non-Tswana ethnic groups. Of the 341 people surveyed, 84 percent were from minority tribes, compared to approximately 28 percent of the national population (Hitchcock 1992:10). This high representation is for traditional crafts. In contrast, the Tswana monopolize contemporary crafts (Table 6.3). There are several possible explanations for these differences, but all are open to further research. In the past, Tswana material cultural practices might have been less significant in comparison with their non-Tswana neighbours', or Tswana have lost interest in their material culture. More likely, formal jobs are more accessible to Tswana than non-Tswana, and therefore, Tswana do not rely on craft production for income. In contrast,

minority tribes are encouraged to carry on with their craft traditions because they have limited access to employment opportunities due to their rural living situations. Possibly, training opportunities in the modern sector, including contemporary craft production, have been made available to the Tswana more often than to others. These differences have policy implications for handicraft development interventions and marketing approaches, which will be discussed in Chapter 11. Regarding specific tribal affiliation (Table 6.4), none of the top five represented tribes are Tswana and only two (Kgalagadi and Bushmen) are members of the five most populous tribes in the general population (see Table 3.1 in Chapter 3).

TABLE 6.3 TRIBAL AFFILIATION AMONG TRADITIONAL AND CONTEMPORARY CRAFT PRODUCERS (N=341)

TYPE OF PRODUCER	TSWANA	NON-TSWANA
All producers	16%	84%
Traditional producers	6%	94%
Contemporary producers	65%	35%
Rural producers	14%	86%
Urban producers	43%	57%

Source: Individual Producers Questionnaire

Notes: The difference between the traditional and contemporary producers has .01 level of significance, p = .0000 (Chi-square = 125.30, d.f. 1), cc = .52. For rural versus urban producers, p = .0003 (Chi-square = 12.79 d.f. 1), cc = .20 indicates some association.

TABLE 6.4 SPECIFIC TRIBAL AFFILIATION OF CRAFT PRODUCERS (N=341)

TRIBAL AFFILIATION	% OF TOTAL PRODUCERS	TRIBAL AFFILIATION	% OF TOTAL PRODUCERS	TRIBAL AFFILIATION	% OF TOTAL PRODUCERS
Bushmen	23.4	Kalanga	4.3	Ngwaketse	0.9
Mbukushu	17.0	Ngwato	3.8	Kwena	0.6
Subiya	12.3	Tawana	1.8	Herero	0.1
Kgalagadi	9.5	Barolong	1.6	Birwa	0.1
Yei	7.7	Balete	1.3	Other*	9.4
Kgatla	5.2	Hurutshe	1.0		

Source: Individual Producers Questionnaire

Notes: *'Other' includes 17 different miscellaneous tribal affiliations with one to three respondents in each: 'Coloured', Lala, Lozi, Shona, Tlharo, Koba, Nare, Ndebele, Noka, Pedi, Sotho, Swena, Tau, Theti, Thokwa, Tswapong and Zezuru.

The survey results show that producers' households range in size from one to 21 members with the average household having 6.34.[3] Compared to the national average of 4.98 in 1986 and 4.63 in 1994 (CSO 1988b:6, 1995:5), craft producers have large households, suggesting that income earned by one craft producer is important because they are supporting more people than the norm. Rural craft producers' households are larger than urban households, at an average of 6.5 and 4.9 respectively.[4] This difference is similar to the national pattern (Alexander 1991:18).

Regarding the gender of the household head, 66 percent of the craft producers surveyed belonged to a household with a male head. Interestingly, 95 percent of the male respondents belong to households headed by males, while only 54 percent of the female producers come from male-headed households.[5] Knowing that female-headed households are often worse-off than male-headed households (GOB and UNICEF 1989:64; Alexander 1991:16), this situation creates an added burden for 46 percent of the female producers. No significant variation occurs between urban and rural areas.[6] For the urban producers, 58 percent were in households headed by males compared with 66 percent for rural producers. This trend contrasts with national statistics where there is a greater percentage of male-headed households in urban areas (60 percent) as compared with rural areas (53 percent) (Alexander 1991:16).

Among the producers surveyed, 52 percent were household heads and 33 percent were the spouse of the household head. The remaining 15 percent of producers had others as heads, for example, father (four percent), mother (three percent) and daughter (two percent). Sharp differences were found between male and female producers, with 84 percent of the men heading their own household, in contrast to 45 percent of the women.

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[3] In Botswana, a household is considered to be one person or a group of people living under the same roof or in the same compound (in Setswana called *lolwapa*), eating from the same pot, but not necessarily related to each other. The head is the primary decision-maker in the household and can be either a man or woman above the age of 15 years (Alexander 1991:17). SD = 3.44; median = 6.0; mode = 5.0.

[4] Significant at the .05 level, p = .041 (analysis of variance of the means (ANOVA) f-value = 4.18, d.f. 1 and 336). See Appendix 5.7.

[5] Significant at the .05 level, p = .0000 (Chi-square = 60.08, d.f. 1), cc = .35.

[6] Chi-square test: insignificant at .05 level, p = .6084.

Regarding spatial movements, 60 percent of the interviewed producers stated that they had moved to a different locality from where they were born. Of these, 71 percent have moved from one rural location to another, while 26 percent have moved from a rural to an urban area. In contrast, only two percent left an urban area for a rural one, and only one percent have moved from one urban locality to another. Of those who have moved, 12 percent have moved ten kilometres or less, 24 percent between 11 and 50 kilometres, 21 percent between 51 and 100 kilometres, and 15 percent from 101 kilometres up to 500 kilometres, while the rest (28 percent) have moved further than 500 kilometres. Although other factors may obviously be present, the relatively large proportion of producers that have stayed in rural areas might be due to the fact that they had income opportunities from their craftwork (see Section 6.2.7).

6.2.2 Production Practices

As seen in Table 6.5, most informal producers work alone, but some receive help during different points in their work. Individual craftspeople who have the help of 'volunteer' workers, typically obtain this help from relatives. Of the ten informal producers who have paid employees working for them, seven were woodcarvers, two leather-workers and one a beadworker. All employees were considered to be 'assistants' and most worked part-time, when work was available, rather than full-time. Their responsibilities covered such areas as general assistance, lathe puller for woodcarving, roughing out first stage of woodcarving, working bellows to heat tools for incising wood and helping with tanning. Wages were most often a portion of the production value (with several assistants receiving 25 percent), although four employees received a regular wage, ranging from P1.50 to P4.00 per day. Because so few workers are hired among the informal producers, the informal craft sector appears to offer little in the way of employment or income from wages, other than the money earned by the individual producers themselves. In contrast, the formal production units employ on average 14 people per unit, thus providing solid employment opportunities.

Regarding time of production, most respondents (84 percent) stated that they produce crafts throughout the year, although there is some variation between the different types

of producers. For example, 89 percent of formal producers work year-round, in comparison to 80 percent of informal producers,[7] with a similar pattern for contemporary and traditional producers. All of the urban workers produce throughout the year, in comparison with 80 percent of rural producers.[8]

TABLE 6.5 WORKING SITUATIONS FOR INDIVIDUAL PRODUCERS (N=341)

INFORMAL		FORMAL	
WORKING SITUATION	% OF PRODUCERS	WORKING SITUATION	% OF PRODUCERS
Alone	47	In a private sector business	28
With voluntary assistance	6	In a cooperative or formal group	12
In a casual/informal group	4		
Hire paid employees	3		

Source: Individual Producers Questionnaire

For the 57 respondents producing only part of the year, winter is the favoured time. Two main reasons were given: 1) free from agricultural duties during the winter months of July and August, and 2) main time for tourists to visit Botswana, providing an expanded market for some of the producers.

Scrutinising the time spent working on crafts, almost three-quarters of the respondents considered craft production to be a full-time occupation, working at least five days per week and seven or more hours on an average day. About 20 percent work on crafts for four to six hours per day, and only seven percent work three hours or less. Understandably, variation exists between the different types of producers. All urban workers work full-time, compared with 67 percent of the rural producers.[9] About 96

[7] The difference between informal and formal workers has a .05 level of significance, p = .0413 (Chi-square = 4.16, d.f. 1), but little association with cc = .12.

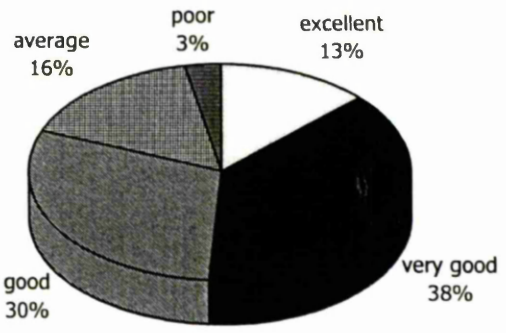
[8] Significant at .05 level, p = .0002 (Chi-square =13.75, d.f. 1), cc = .20.

[9] Significant at the .05 level, p = .0000 (Chi-square = 31.45, d.f. 4), cc = .29.

percent of the formal workers and 57 percent of the informal producers work more than seven hours per day.[10] For the remaining informal workers, 31 percent work four to six hours per day, and 12 percent between one and three hours. Given this information, the perception, which many people have that craftwork is a frivolous or casual occupation, is incorrect. For those days when no craftwork was done, respondents provided a variety of reasons. Three predominated: not feeling well (21), no materials available (18) and other informal or agricultural work to do (18).[11]

More than 250 different types of specific craft items are produced throughout Botswana. Individual producers gave varying reasons for making their **specific** craft type, but few were market-led, suggesting that most producers are not yet commercially-orientated. As much as possible, craft samples were examined by survey enumerators and quality was determined. Over half the products observed were considered to be better than 'good' (Figure 6.1). This situation allows Botswana to compete favourably within the region, but quality levels must be continually monitored, and further improvement always encouraged.

Fig. 6.1 Quality of Surveyed Products



[10] Significant at the .05 level, p = .0000 (Chi-square = 69.79, d.f. 4), cc = .41.

[11] Numbers in brackets represent the number of respondents making the comment. This style will be used throughout the thesis.

6.2.3 Skill Acquisition and Required Training

Producers were asked when and how they learned to make crafts (Tables 6.6 and 6.7). Over half (56 percent) of all respondents, and 66 percent of the traditional producers, were under 20 years old when they learned their craft skills. This makes sense considering the fact that 52 percent of the total sample and 57 percent of the traditional producers are over the age of 40, and two or three decades ago many would have not been attending school but rather learning the traditional aspects of rural life. Again, because this survey has captured a profile of producers at a particular moment in time, it is difficult to predict whether crafts will continue to be learned and practised by young people over the next few decades.

For the 44 percent that learned after the age of 20, possibly these individuals have seen the value of craftwork from commercial promotion, and have chosen to take up crafts as adults. The majority (78 percent) of contemporary producers have understandably learned after the age of 20, most often when they were already on-the-job. Clearly parents have played an important role in passing on craft skills, especially traditional skills, to their children. Interestingly, local craftworkers have been influential as trainers in formal production situations, much more than expatriate advisors, as was thought. These findings should be borne in mind when training policy is developed.

TABLE 6.6 AGE AT WHICH CRAFTS WERE FIRST LEARNED (N=330)

AGE CATEGORY	% OF PRODUCERS		
	ALL	TRADITIONAL	CONTEMPORARY
Younger than 8 years old	3	4	0
8 – 12 years old	20	25	0
13 – 16 years old	18	22	5
17 – 20 years old	15	15	17
Older than 20 years old	38	31	62
Within the past year only (as an adult)	6	3	16

Source: Individual Producers Questionnaire

Notes: Contemporary producers learning at older ages than traditional producers is significant at the .05 level, p = .0000 (Chi-square = 64.42, d.f. 5), cc = .39.

TABLE 6.7 HOW/FROM WHOM PRODUCERS FIRST LEARNED (N=330)

SOURCE OF LEARNING	% OF PRODUCERS		
	ALL	TRADITIONAL	CONTEMPORARY
Parent	45	57	4
Another craft producer (non-relative)	12	14	7
Self-taught/observation only	9	12	4
Grandparent	5	6	0
Other relative	4	4	2
Sibling	3	4	0
On-the-job (by local person)	13	0	59
On a course	4	2	12
On-the-job (by ex-pat advisor)	3	0	11
On a previous job	2	1	1

Source: Individual Producers Questionnaire

Notes: Traditional versus contemporary is significant at .0000 (Chi-square = 263.19, d.f. 9), cc = .65. No respondents said they learned their skills at school, which is an interesting contrast to a 1980 study conducted in North East District (Taussig 1980:14) in which 11 percent (mostly in the 30–50 years age group) had learned their skill in this type of formal setting. At the time of that study, only three schools in the district were still teaching handicraft skills.

Information was also obtained on additional training the producers have received since they originally learnt their skill, and on their felt-needs for more training. Only a third of all producers have had any further training. This is also true when comparing gender, traditional with contemporary, and informal with formal producers.

For the 100 respondents who have had additional training, various types of training have been undertaken (Table 6.8). For the rest, who never received additional training, diverse reasons were mentioned (Table 6.9). Undoubtedly, the improvement of the same craft skill, whether on-the-job, in the village or outside, has taken precedence over any other type of training. On one hand, this is good because there was a clear need to upgrade traditional craft skills to make them suitable for the commercial market. Developing existing skills fully before moving into another area also makes sense. On the other hand, this obvious concentration on only developing existing skills limits product diversity, and therefore, market potential. Furthermore, limited exposure has been given to the two important areas of design training and business skills development, which reinforces three

impressions: 1) producers are not often aware of the importance of possessing skills and knowledge in these two areas, 2) there are not enough training programmes in these two areas, and 3) the existing programmes are not publicised adequately or made available to rural dwellers. The fact that 37 percent of the respondents who never had additional training "never heard of any training being available" also supports the notion that training is limited or poorly publicised.

TABLE 6.8 TYPES OF ADDITIONAL TRAINING UNDERTAKEN (N=100)

TYPES OF TRAINING	% OF PRODUCERS
Improvement of same craft skill (on-the-job/in the village)	41
Improvement of same craft skill (outside the job/village)	34
Design course	7
Informal/casual/observation	6
New technical skill/craft (outside the job)	6
New technical skill/craft (on-the-job)	2
Business skills	4

Source: Individual Producers Questionnaire

TABLE 6.9 REASONS FOR NOT UNDERTAKING ADDITIONAL TRAINING (N=221)

REASONS	% OF PRODUCERS
Never heard of any training being available	37
No need for/no interest in further training	16
Employer will not allow/did not select	15
Only just learned craft/not yet ready for more training	10
Too busy with other duties	8
Do not know	7
Health problems	2
Too old to learn more	1
Transportation problems	1
Belief that formal education needed to qualify for further training	1
Husband will not allow	1
No money	1

Source: Individual Producers Questionnaire

The findings from this survey highlight the need for adequate and accessible training for craft people. Of 328 individual producers, 71 percent said they would like more training, 21 percent do not want additional training and eight percent "do not know." The 234 respondents wanting additional training described their needs (Table 6.10). Of the 68 respondents not wanting any more training, 42 explained their thinking (Table 6.11).

TABLE 6.10 TYPES OF FUTURE TRAINING DESIRED (N=234)

TYPES OF TRAINING	% OF PRODUCERS*
Upgrading in same product/skill	53
Learn new products with same skill	24
Learn a new skill/product	21
Learn new techniques with same skill	15
Design	11
"Anything" craft-related	7
Business skills	3

Source: Individual Producers Questionnaire
Notes: * Total percentage is greater than 100% because some respondents wanted more than one type of training.

TABLE 6.11 REASONS FOR NOT WANTING ADDITIONAL TRAINING (N=42)

REASONS	% OF PRODUCERS
No need/no interest in further training	36
Health problems	19
Too old to learn more	19
Only just learned craft/not yet ready for more training	10
Too busy with other duties	10
Did not think training was available	5

Source: Individual Producers Questionnaire

The fact that almost three-quarters of the respondents would like to have additional training suggests that producers are aware of the value of the sector and desire to achieve within it. This finding also provides a challenge to government, NGOs and the private sector to provide the training that is required. Although over half want to improve their current skills, 60 percent also want to learn new products, skills and techniques, which

is promising. Only a few recognise the necessity of having sound design and business skills, and this is addressed in Chapter 11 under policy implications in Section 11.4.2.

6.2.4 Raw Material Utilisation

Of the estimated 5,000 people who are producing crafts in Botswana today, approximately 52 percent use plants and 43 percent use animals for raw materials. Findings suggest that some 80 plant species, 21 animal species and seven other natural resources (e.g. clay, beeswax and semiprecious stones) are used in craft production. In contrast, only 16 different manufactured materials are useful in the craft industry. Table 6.12 lists the top 20 most used materials in the categories of plants and animals, and the 16 manufactured materials. Interestingly, except *mogonono,* which is also used as a fibre for wigs, trees for woodcarving do not feature in the top 20 plants.[12] This indicates the overall volume of basketry and skinwork production in comparison to woodwork, and that the resources used in these two areas must be carefully monitored to reduce or prevent over-utilisation problems. In Botswana, any over-utilisation of trees is probably attributable to firewood use, and possibly building, rather than craftwork.

Concerning individuals procuring the needed natural resources, almost two-thirds of those surveyed collect their own materials or have family members do it for them. Therefore, their only expense is in time. Among the producers who buy materials, the amount spent varies considerably: from 50 thebe up to P200 per month per producer, with an average of P8.23 spent per month or P98.76 per year. This annual figure represents approximately four percent of the average household's total annual expenditure. Traditional skinworkers and potters spend the most on raw materials with both categories spending an average of P28.00 per month. Woodcarvers follow, spending P7.66 per month, while basketmakers spend P3.22. The smallest expenditure for materials comes from beadworkers at P1.22 per month.[13]

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[12] The top ten trees used for woodcarving are as follows: *mophane, modumela, morula, motswere, mokomoto, morala, mukwa, mogonono, motlope and mokopokopo*. See Appendix 4.9 for the scientific names.

[13] The variation between the different craft categories for money spent on materials is statistically significant at the .05 level, p = .002 (ANOVA f-value = 3.25, d.f. 7 and 171).

Many craft people, whether they collect or purchase their materials, consider the total sale price of their products to be their profit. Others realise if they must buy materials, the purchase cost reduces their profit. No producers collecting materials were found to place a value (opportunity cost) on their collection time. Some place a higher value on a product made with purchased materials than one made with collected materials. For example, one basketmaker said, "Because I must buy my palm and she doesn't, then you must pay more for my basket."

When asked about general craft-related problems, 83 percent reported having problems with their craft production business. Of these, 45 percent had problems associated with raw materials. In other words, 37 percent of the individuals surveyed mentioned raw material problems when thinking about problems in general. When the surveyed producers were asked directly, "Are there any problems with obtaining raw materials?", 91 percent answered in the affirmative. Producers appear to consider raw material problems less seriously when considering all aspects of the craft business, but when specifically asked, the majority easily identified specific raw material problems. Although various problems were cited (Table 6.13), three problems are the most prevalent, with at least a quarter of the producers mentioning them. Box 6.8 in Appendix 6.1 elaborates by quoting individual producers. The problems marked with an asterisk (*) relate to natural resource utilisation and management. These have several important implications for the craft sector, and the associated sectors of wildlife, forestry and veld products, and will be covered in Chapter 9 in the section on the economic characteristics of resource utilisation.

Only a few producers had any solutions to the raw material problems. Solutions that relate to the three most frequently cited problems include: 1) try to find alternative raw materials, 2) cultivate own materials, 3) receive assistance with transportation to reach or transport materials, and 4) buy materials rather than undertake long and dangerous journeys to collect. A few respondents said that raw material collection problems would seem less serious if they were paid more for their products. Several minimised their problems by mentioning that, although they had raw material problems, "these problems are just part of life" and "we have to live with these problems to obtain a living."

TABLE 6.12 TOP RANKING RAW MATERIALS UTILISED ACCORDING TO INDIVIDUAL PRODUCERS (N=287)

NO	PLANTS	ANIMALS	MANUFACTURED
1.	*mokola* palm fibre for baskets (127)	ostrich eggshells (58)	glass beads (45)
2.	*motsentsila/mukurete* dye for baskets (104)	springbok (45)	plastic strips (e.g. orange sacks, mealie bags) (22)
3.	*mothakola/mushitondo* dye for baskets (65)	gemsbok (43)	wire/scrap metal/ rods (9)
4.	*motsikiri/muhonyi* grass for baskets (47)	goat (38)	sandpaper (6)
5.	*mohetsola* dye for baskets (40)	duiker (36)	rusty tins/metal scrap (5)
6.	sorghum dye for baskets (26)	cow (31)	shoe polish (4)
7.	*lethajwa* dye for baskets (25)	jackal (28)	paint (4)
8.	*moretlwa* bark fibre for baskets (20)	steenbok (24)	rope for chair seats (2)
9.	*mogonono/mushosho* bark fibre for wigs and sieves and wood for carved products (19)	kudu (14)	glue (2)
10.	*koma* papyrus reeds for mats (17)	genet (13)	Cobra floor wax (2)
11.	*ntshe* (sweet reed) dye for baskets (15)	bat-eared fox (13)	wood stain (1)
12.	*lozeze* fibre for twine for mats (15)	hartebeest (11)	chemical/powder dyes (1)
13.	*seswagadi* roots dye for skins (13)	wildcat (10)	scrap cloth (1)
14.	*mogwana* fibre for baskets and branches for bows (10)	impala (9)	nails/bolts (1)
15.	*motsetsane/mosetsana* dye for skins (10)	sheep (6)	varnish (1)
16.	*letlhaka* reeds for mats (10)	tortoise shells (5)	chalk (1)
17.	*mokabi* dye for skins (8)	moth cocoons (1)	
18.	*motsoketsane/dighuruwe/lexhi* vine for baskets (7)	cape fox (1)	
19.	*qwachi/kuache* branches for beadwork (7)	eland (1)	
20.	*mmono/mono* seed oil for wigs (6)	elephant ivory (1)	

Source: Individual Producers Questionnaire

Notes: See Appendix 4.9 for scientific names of plants and animals. Numbers in brackets reflect number of respondents.

TABLE 6.13 RAW MATERIAL PROBLEMS AS CITED BY INDIVIDUAL INFORMAL PRODUCERS (N=265)

TYPE OF PROBLEM	NO. OF TIMES CITED
* Raw materials far away/long journey to reach materials	111
* Difficult to find/not always available (in nature)	72
Encounter dangerous animals when collecting materials	68
* Shortage of natural raw materials	36
Difficult work to collect, dig, cut, etc.	31
Must pay for raw materials or for transporting materials/expensive	28
No transport to collect raw materials	15
Thorns on palm trees prick hands	15
Always dependent on others to get raw materials	14
Easy to injure oneself with tools while collecting	14
Fall in unseen holes under water during Delta journey to collect materials	13
Difficult to find/not enough sellers of raw materials	12
Department of Wildlife bureaucracy makes it difficult to obtain licenses	11
Shops lack/have poor supply/poor selection of manufactured materials	10
* Difficult to get good quality/right type of raw materials	8
Collecting materials is very tiring work	5
Afraid to travel alone to collect materials	3
* Too much competition with other users/quarrel with other users	3
Water in Delta is cold/difficult to cross when collecting materials	3
* Wildlife and forestry officials do not want materials used/taken	2
Lack 'proper' tools to collect/to prepare raw materials	2
Go all day without food or water when collecting materials	1

Source: Individual Producer Questionnaire
Notes: Number of responses are greater than total respondents because some cited several problems.
* Relate to natural resource utilisation and management issues.

6.2.5 Equipment Utilisation

Methods used by individual producers to obtain equipment are listed in Table 6.14. It is interesting, but not surprising, to note that small-scale craft producers working alone have not obtained their tools through bank loans, leasing/hiring programmes, or the government FAP grant programme. In most cases the assumption is that micro-scale producers do not need large quantities of expensive tools. In some cases, some carvers or skinworkers might need more equipment, but the information on lending and grant programmes is not reaching them, which has implications for policy and these support programmes.

TABLE 6.14 METHODS FOR OBTAINING EQUIPMENT/TOOLS (N=288)

METHODS	NO. OF TIMES CITED
Producer paid for tools	216
Producer made tools	136
Found the tools or found materials needed to make them	42
Friend or relative made tools for free	30
Borrowed tools	7
Obtained them through craft project for free	3

Source: Individual Producer Questionnaire
Notes: Number of responses are greater than total respondents because some cited several methods.

One-quarter of the producers reported that they had no expenses for tools or equipment because tools were few and were made by either the producers themselves or a helpful relative or friend. In many cases, purchased tools for crafts are also used for non-craft activities, and thus the cost is shared. For example, a mortar and pestle are needed for crushing bark for dye material in basketry work, but this pounding set is used much more often for grinding millet during food preparation.

For the rest who buy tools or equipment, these costs ranged widely from 20 thebe to P950, with the average cost being P14.00.[14] Woodworkers and potters had the greatest

[14] The variation between the different craft categories is statistically significant at the .05 level, p = .000 (ANOVA f-value = 3.87, d.f. 7 and 193).

tool costs at an average of P90.74 and P86.68, respectively. Basketmakers spent an average of P11.32 and skinworkers P8.57. Like material expenditures, beadworkers also have the smallest tool expenditure at P5.16.

6.2.6 Marketing Practices of Individual Producers

Various marketing methods are explored and employed by the independent producers, with some methods proving to be more successful than others (Tables 6.15 and 6.16). The most common marketing method for individual producers in Botswana is to sell to non-profit (and in fewer cases, commercial) middlemen or wholesalers. Typical arrangements involve producers meeting buyers at a specified place (e.g. certain tree, village centre, community hall, near the *kgotla*) on a specified date (e.g. every two months). Most of the non-profit marketing organisations mentioned by the producers are described in Appendix 3.1. Up to the late 1980s, the parastatal craft marketing company, Botswanacraft, was the main non-profit, middleman wholesaler. At the time of this study, Botswanacraft was undergoing change (i.e. cutting back on expensive buying trips to remote areas, and in the process of being sold to private owners). The small percentage of producers who stated during the survey that they sell to Botswanacraft reflects this time of flux. The three main commercial middlemen mentioned by the respondents operate in quite remote areas, providing rural producers with a very valuable service.

The second most common method is for producers to sell products from their own home to casual buyers, such as other villagers, official visitors to the village, local extension officers (e.g. teachers, nurses, community development officers), and the occasional tourist.[15] Although this method does not cost the individual producer much time or money to travel, it is not very reliable because the producer is dependent on the sporadic arrival of visitors.

[15] Among the different producer categories (contemporary versus traditional and rural versus urban) there was no statistical difference regarding the two top marketing methods.

Very few producers sell at open-air market places or roadside market stalls, which makes Botswana very different from most other African countries. Botswana lacks a tradition of marketing and trading, and therefore has few market places. Vast distances, poor roads and limited vehicles in remote areas preclude roadside marketing. The same conditions hinder many producers travelling to find tourists, retail shops or trade fairs.

The network of non-profit organisations exists primarily because of Botswana's vast distances, remoteness, poor roads and lack of a 'trading culture'. Producers do not travel far to market their products and very few commercial middlemen have been willing to take the risks or expense of operating in remote areas. The existing situation works well as long as the non-profit organisations keep operating and provide fair and reliable services. If these non-profit organisations stopped operating, for whatever reasons (e.g. no longer obtaining support funds, poor management, lack of interest, government refusing work permits/visas for advisors, and no locals trained for the work), then the independent producers would be ill-prepared to do their own marketing.

TABLE 6.15 MARKETING METHODS FOR INDIVIDUAL PRODUCERS (N=206)

MARKETING METHODS	NO. OF RESPONDENTS	% OF PRODUCERS*
By travelling to a specific place to sell	132	64
From own home	90	44
Door-to-door	30	15
From own place of work	25	12
At the train station	8	4
On the roadside	6	3
From a local marketplace	3	2
At trade fairs	2	1
Special orders/export	2	1
From cattle post	1	<1
No longer selling crafts	4	2

Source: Individual Producers Questionnaire
Notes: * Total percentage is greater than 100% because some respondents use several methods.

TABLE 6.16 MARKETS USED BY INDIVIDUAL PRODUCERS (N=206)

TYPES OF MARKETS	NO. OF RESPONDENTS	% OF PRODUCERS*
Non-profit middleman/wholesaler (other than B/craft)	134	65
Villagers/locals	62	30
Visitors (official) to village	59	29
Extension officers living in village	52	25
Tourists	48	23
Commercial middleman/wholesaler	23	11
Botswanacraft Marketing Company (B/craft)	21	10
To retail shops	15	7
"To anyone who wants to buy"	7	3
No longer selling crafts	4	2

Source: Individual Producers Questionnaire
Notes: * Total percentage is greater than 100% because some make use of several markets.

It is interesting to note that only four respondents were not selling their products, compared to a 1980 survey in North East District where 51 percent of the 550 respondents were primarily making their crafts for domestic purposes (Taussig 1980:21).

TABLE 6.17 TRANSPORTATION METHODS FOR MARKETING (N=200)

TRANSPORTATION METHODS	NO. OF RESPONDENTS	% OF PRODUCERS
Walking	119	58
Buyer comes to home	47	23
Lifts (paid)	13	6
Lifts (free)	10	5
Bicycle	3	2
Donkey	3	2
Public transport by road (taxi/combi/bus)	3	2
Train	1	<1
Private vehicle	1	<1

Source: Individual Producers Questionnaire

About one-quarter of the producers never travel to sell their products. For those producers who must travel, often the distance is not far and they tend to walk, organise free lifts, or ride donkeys or bicycles. Most producers simply walk to the common meeting point to sell to the non-profit buyer. This situation is basically the same for all types of producers, with no statistically significant difference between the different producer categories or contemporary versus traditional producers.

Few (14 percent) independent producers have to pay for transporting their products to the market. For the twenty respondents who do pay for transportation, the cost ranges between P2 and P30 per one way trip. According to 17 producers the amount spent per month on transporting crafts to the market ranges from P4 to P30.

Among 200 independent producers, only a few attempt to sell very frequently (i.e. daily or every weekday). About 40 percent sell more often than once per month, with the average being 2.8 times per month. About 30 percent try to sell once per month, and about 25 percent sell less often than once per month. This later portion sold every time some non-profit middleman came to them, which was every two to four months. About ten producers mentioned that they do not actively try to sell, they just sell if visitors or tourists happen to come to them. Other responses included: three times per year (6), six times per year (3), twice per year (2), once per year (2), once every few years (2), and only when they get an infrequent order (2).

6.2.7 Household Income

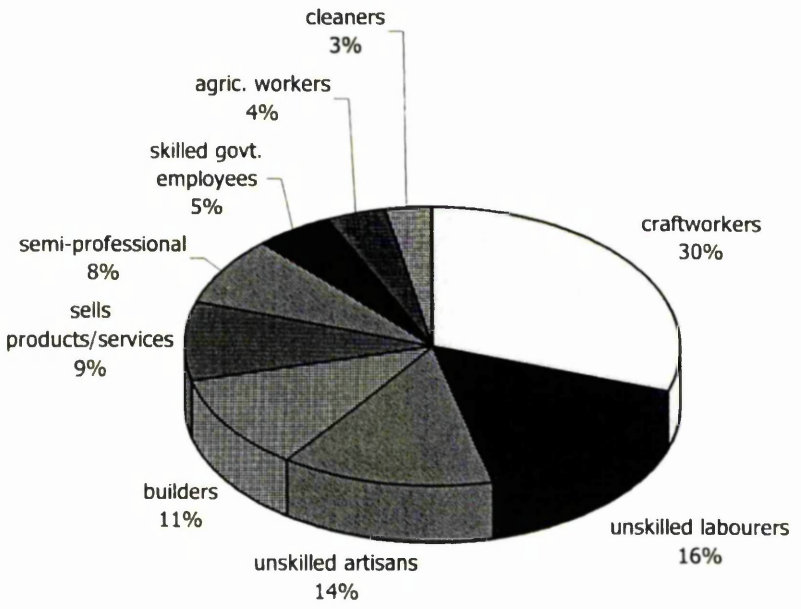
Details on producer and household-level income were gathered during the individual producers' interviews. Over half of the producers (54 percent) were the **only** member in their household earning cash income. The importance of income earned by craft production in these households is obvious. For 32 percent of the producers, another household member was earning income besides the producer, while 12 percent had two other members earning income, two percent had three, and only one respondent had as many as four. On average, each household had 1.6 members earning income,[16] with rural

[16] SD = .762.

households having 1.6 members compared with 1.8 in urban households, which suggests a slight advantage for urban families. For the respondents who lived in households with other members earning income, 36 percent were households with additional craft producers, further confirming the importance of crafts.

Respondents were also asked who they felt was the most important income earner in their household. A large portion (70 percent) stated that they themselves were the most important. For 17 percent of the respondents, their spouse was the most important. Various responses came from the remaining 13 percent, including sibling, son, uncle and other relatives. The fact that female producers responded to this question very similarly to the males proves that the earnings from women are equally important to those of men. The women are not just making crafts to earn 'pin money' while their husbands support

Fig. 6.2 Type of Work Undertaken by Members of Producers' Households (N=185)



them and the rest of the family. Figure 6.2 depicts the type and relative proportion of work undertaken by household members.

To obtain specific information on income, respondents were asked to estimate the amount of **cash** income earned in their household from three different sources:[17]

1) Employment – full-time or part-time wage employment, including wage-earning craft production by other household members.

2) Non-employment methods – sale of livestock or game, crops, and other products or services (including informal craft production by other household members), remittances, rent and pensions.

3) Respondent's earnings from formal and informal craft production – wages from the formal production units; and revenues for informal producers (calculated by average quantity of products sold per sales occasion *x* product prices *x* number of sales occasions) *minus* costs (raw materials, tools and infrequently labour).

Data for these three sources were totalled to obtain the total annual household income (Table 6.18). When producers' average annual total household income of P2,057 is compared with the national average of P4,241,[18] then craft producers' families are considerably poorer. The overall distribution of income is skewed towards the lower income levels (Table 6.19). Annual income earned from the respondents' craftwork ranged from zero (i.e. four make crafts only for their own use) up to P12,000, while annual total household income ranged from P9 to P31,730. On average, the respondents' craft income represented half the total household income.

Table 6.18 reveals that the mean and median annual household income figures vary widely among the different types of producers. Urban producers' households earn more than rural, formal producers' households more than informal, and contemporary producers' households more than the traditional producers. When comparing male and female producers' households, not much difference is apparent, possibly because the

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[17] These categories correspond to several questions in the individual producer questionnaire (see Appendix 5.2, questions 5.3 to 5.9.2). To judge the accuracy of the producers' responses to these questions, they were compared against other questions from the production section (questions 2.2, 2.5 to 2.8), the marketing section (questions 4.10 to 4.12), and the income utilisation section (question 6.1), along with national wage earning data (CSO 1988b, 1993a; OFSG 1990; Andrews and Manamela 1991). Although income data is notoriously difficult to obtain, this 'triangulation' and probing throughout the interview process, along with detailed cross-checking with secondary sources and general knowledge about the situation in Botswana, has helped to increase the reliability.

[18] The figure of P2,809 for average annual household cash income from the 1985/86 HIES survey (CSO 1988b:5) has been adjusted by price inflation to reach the 1990 figure.

women's households' high employment income figure balances the poor craft earnings. When examining the specific craft categories, textile workers' households are in the 'best' position, while beadworkers are the 'worst-off'.

TABLE 6.18 SOURCES AND AMOUNTS OF ANNUAL INCOME (IN PULA) BY LOCATION, TYPE OF PRODUCTION, GENDER AND CRAFT CATEGORIES

CATEGORY	HOUSEHOLD INCOME FROM EMPLOYMENT		HOUSEHOLD INCOME FROM NON-EMPLOYMENT SOURCES		RESPONDENT'S INCOME FROM CRAFTS		TOTAL HOUSEHOLD INCOME	
	Mean	*Med*	*Mean*	*Med*	*Mean*	*Med*	*Mean*	*Med*
All producers (N=341)	884	0	429	45	712	220	2,057	740
Urban producers (N=63)	2,777	1,956	759	0	2,883	2,400	6,310	5,304
Rural producers (N=278)	753	0	404	60	556	200	1,756	640
Formal producers (N=136)	2,718	1,800	702	0	2,621	2,340	6,055	4,900
Informal producers (N=205)	578	0	381	72	384	200	1,370	600
Males (N=113)	434	0	440	0	1,067	358	1,984	770
Females (N=228)	1,055	0	424	0	582	200	2,085	740
Traditional								
Basketry (N=99)	832	0	465	123	217	108	1,531	590
Beadwork (N=24)	233	60	192	0	267	240	712	540
Skinwork (N=19)	125	0	403	0	788	240	1,335	640
Carving (N=54)	853	40	157	0	1,401	720	2,489	1,440
Contemporary								
Leatherwork (N=46)	2,372	1,440	685	60	2,759	**2,400**	5,984	5,048
Weaving (N=32)	**3,291**	**2,400**	691	0	2,395	2,280	6,378	4,874
Textiles (N=23)	3,230	2,250	642	**200**	2,742	2,340	**6,643**	**5,452**
Pottery (N=16)	2,285	0	**818**	0	1,419	1,608	3,991	2,160
Jewellery (N=21)	1,376	900	800	0	**2,854**	2,160	4,354	4,008
Misc. Crafts (N=7)	664	100	311	0	1,134	600	2,110	700

Source: Individual Producers Questionnaire

Notes: Med = median; income in **bold** in each column represents the craft category with highest earnings. T-test and ANOVA statistical tests were run on these data. See Appendix 5.7 for an explanation of these tests and Appendix 6.2 for the results.

TABLE 6.19 PERCENTAGE OF CRAFT PRODUCER HOUSEHOLDS IN DIFFERENT ANNUAL INCOME BANDS BY SOURCE OF INCOME (N=309)

INCOME BAND (P)	HOUSEHOLD INCOME FROM EMPLOYMENT	HOUSEHOLD INCOME FROM NON-EMPLOYMENT SOURCES	RESPONDENT'S INCOME FROM CRAFTS	TOTAL HOUSEHOLD INCOME
0	**55**	41	2	0
1 – 500	21	**42**	**69**	**36**
501 – 1,000	6	4	10	24
1,000 – 5,000	11	11	18	28
5,001 – 10,000	5	1	1	9
10,000 – 15,000	1	1	<1	2
Over 15,000	1	0	0	1

Source: Individual Producers Questionnaire
Notes: **Bold** figure in each column denotes the income band with the largest percentage of households.

To obtain another indication of the impact of handicrafts on household income, the respondents were asked to give their perception of which income earning method was the most important for their household. As can be seen in Table 6.20, producers consider craft production to be highly important for their households, with 77 percent stating that crafts are either the only source of income or the most important source. The survey further determined that male producers' households are more dependent on craft income than the female producers' households, at 84 percent for men compared with 75 percent for women. The majority (92 percent) of urban producers feel that crafts are crucial for their households well-being, in comparison to 76 percent of rural producers.

Producers were also asked to state how important earning money from craft production was for their households. Figure 6.3 shows that almost three-quarters feel that income from crafts is at least "important" for their households, while almost half feel that craft income is "very important." Specific reasons to explain this importance, included: can buy basic things for the household such as food and clothes (94), only income available to household (55), really helps the household (54), can buy school uniforms and pay school fees (19), and family livelihood completely depends on craft earnings (14).

Several respondents described the importance of crafts to themselves as individuals, rather than to their households, with 38 saying that crafts provide them with a living and nine noting that crafts make them self-reliant. See Appendix 6.1 (Box 6.1) for more detailed explanations.

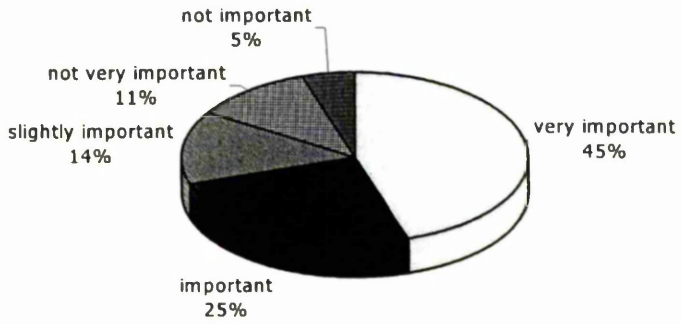
TABLE 6.20 MOST IMPORTANT METHOD OF EARNING INCOME IN PRODUCER HOUSEHOLDS AS PERCEIVED BY THE PRODUCERS (N=334)

MOST IMPORTANT METHOD	ALL PRODUCERS	GENDER		LOCATION	
		MALES	FEMALES	URBAN	RURAL
Only has craft production	20%	20%	21%	50%	18%
Craft production	57%	64%	54%	42%	58%
Sale of other products or services	7%	4%	8%	5%	7%
Sale of crops	4%	2%	5%	0%	4%
Formal employment (by respondent)	4%	6%	3%	0%	4%
Remittances	2%	0%	3%	0%	2%
Formal employment (by other household member)	2%	0%	2%	0%	2%
Sale of livestock	1%	0%	2%	0%	1%
In-kind from outside household (i.e. food, clothing)	<1%	0%	1%	0%	<1%
Pension	<1%	0%	1%	0%	<1%
Other informal labour	<1%	1%	0%	1%	1%
Other*	2%	3%	0%	2%	2%

Source: Individual Producers Questionnaire
Notes: * Other: "Crafts during drought years, but crops during good agricultural years", "None are important", "None generate decent income".

Just over 50 producers felt that craftwork was not that important. Most of these felt that they were simply not earning enough money from craft production, while about 20 thought the money helped their families but it was never enough (Appendix 6.1, Box 6.1). Five producers mentioned that crafts would only become important when the market expanded. Expressing clear frustration, four producers commented that none of their sources of income were important, because they did not earn a decent amount from any

Fig. 6.3 Importance of Craft Earnings to Households (N=331)



of them. These opinions only help to emphasise the very real need for more income-generating opportunities, especially in the rural areas. To gain a better understanding of the overall work situation for producers, they were asked, "If you did not know how to produce crafts could you find other work in your village or the immediate area near your village?" (Question 5.11). Of the 340 producers who responded, 51 percent did not think they could find any work, 40 percent felt they could, and 9 percent did not know. A variety of reasons were given for not finding work: too old to work (9), have no skills or education (7), no work of any type available (4), too sick to work (4), too many responsibilities at home to go out and work (1).

From the 136 respondents who felt they could find work, the possibilities mentioned were generally of a low level. Of these respondents, 75 percent felt they could only find work as unskilled labourers, such as gardeners, guards, road or building labourers, housemaids or office cleaners. Selling other products or services was considered as an option for 17 percent of the respondents, including running a *semausu* (i.e. tuck or take-away shop),

selling beer/fatcakes, collecting/selling thatching grass/reeds, and building/thatching huts. Skilled employment was considered as possibilities by only a very few: government positions (four percent), artisan work such as plumber, mechanic, dressmaker, typist and panel-beater (two percent), and agricultural technician (two percent).

To obtain an indication of the working situation for the producers in previous years, they were asked if they had ever left their village to find work. About one-third had left home to look for work at some point in their lives, with 90 percent actually finding employment. Most obtained unskilled jobs (i.e. 29 percent were unskilled labourers, 25 percent worked in the mines in South Africa, and 21 percent were housemaids or cleaners). About 15 percent found skilled, relatively better paid work (i.e. teachers, police, government extension officers, retail shop assistants or skilled artisans). Only four percent found work as agricultural workers, confirming that only limited opportunities exist in Botswana for non-subsistence agricultural employment.

To obtain a clearer idea of the producers' present situation, they were asked "While you are producing crafts, do you think it would ever be necessary to leave your village to find other work?" (Question 5.13). Two-thirds of the producers felt that they would not have to leave to find other work, while 27 percent thought they might and six percent did not know. Reasons were given for not needing to leave home to find work. Forty-six of the producers were happy with the craftwork they were doing in their own village and therefore had no reason to leave, and 21 were happy with the amount they earned from crafts. For example, one beadworker explained, "Producing crafts here is much better than going to find work some place else." Others gave reasons for it being impossible to leave to find work, including: too many responsibilities at home (38), too old (37), no other skills or education (18), sick (8) and disabled (2).

Reasons were given by the 92 producers who thought that leaving their village might be necessary: not earning enough from crafts (61), want to find a better job (12), try to start a different type of business (4), just want to leave home village (4). Eleven producers felt that problems inherent to the craft industry (see Section 6.6) might force them to stop making crafts and find other work outside their villages.

6.2.8 Household Expenditure

Household expenditure data (Table 6.21) were collected for two reasons: 1) to see how producers and their families spend their money, and 2) to check the reliability of the stated income earned. On average, just over 60 percent of family income is spent on the necessities of life including food, fuel, clothing and health expenses. Only eight percent is spent on such 'luxuries' as furniture, radios or bicycles. Few households put money into craft business expansion. If average annual household expenditures indicated by craft category (Table 6.21) are compared with average annual household incomes in Table 6.18, the amount spent correlates with the amount earned. Greater differences occur between income and expenditures for those who earn more (i.e. the contemporary craftworkers).

Besides obtaining expenditure figures, two other questions were posed to the individual producers regarding income utilisation. One question (6.2), "If the money earned from craft production was to double, how would you use that additional money?", was asked to gain another level of understanding of the importance of craft earnings to an individual household (Table 6.22). For example, if a producer said they would use this additional money to buy food or clothing, or other household essentials, (as did one-third of the respondents) that household is likely to be very dependent on craft earnings for basic survival. If a producer said they would use the extra money to buy something less essential, craft earnings would be considered less crucial for the survival of that particular household. Reinvesting the additional money in their craft business or starting another business might suggest that their craft earnings were reasonable.

Differences appeared between the male and female producers. More men would use the money to buy livestock or invest in their craft business than women. Women would direct the additional money towards home improvements through building, expansion or buying furniture. More men than women would save their extra money.[19]

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[19] Gender variations are statistically significant at the .05 level (all livestock combined: Chi-square = 21.97, d.f. 1; starting up own business and buying tools/materials combined: Chi-square = 35.31, d.f. 1; building or expanding homestead: Chi-square = 26.86, d.f. 1; furniture: Chi-square = 66.63, d.f. 1; save money: Chi-square = 3.84, d.f. 1).

TABLE 6.21 AVERAGE ANNUAL HOUSEHOLD EXPENDITURE BY CRAFT CATEGORY (PULA)

ITEMS	BASKETRY (N=99)	BEAD-WORK (N=24)	SKIN-WORK (N=18)	CARVING (N=52)	LEATHER-WORK (N=47)	WEAVING (N=31)	TEXTILES (N=23)	POTTERY (N=16)	JEWELLERY (N=21)	MISC. CRAFTS (N=7)	TOTALS (N=338)
EDUCATION/UNIFORMS	62.5	26.06	32.72	259.21	205.51	139	202.09	123.63	170.14	97.14	138.9
HEALTH	53.86	0.43	2.27	103.93	78.01	61.52	45.04	31.45	91.71	3.77	60.12
FARM EQUIPMENT	11.95	25	0	4.42	19.89	132.26	2.17	0.63	9.52	0	22.23
LIVESTOCK											
Cattle	24.24	12.5	0	25.58	4.26	289.35	393.91	16.19	0	0	68.89
Goats	12.33	8.33	54.11	26.63	33.72	27.42	3.48	15	34.29	0	22.1
Donkeys	4.55	2.92	0	29.58	5.11	0	0	15	0	0	7.68
Chickens	2.19	0.42	0.58	6.39	2.69	2.87	2.7	12.06	6	2	3.6
Other Livestock	2.02	0	0.11	4.62	72	0.55	0	0	0	0	11.6
PROPERTY	21.86	4.17	4.56	46.1	505.26	220.61	84.87	97.81	88.19	11.5	123.82
PURCHASE OF SEEDS	3.43	0	1.89	1.55	6.64	5.35	2.61	1.56	2.93	1.43	3.3
CONSUMER DURABLES											
Car	0	0	0	0	0	0	0	250	0	0	12.57
Bicycle	7.78	0	33.33	0	5.72	5.16	0	0	23.81	0	7.03
Radio	26.12	0	46.28	21.73	92.29	23.23	110.17	2.5	29.52	0	38.91
Furniture	36.89	3.75	15.78	42.21	239.98	264.87	230.83	56.19	438.48	0	125.61
Utensils	12.86	17.33	11.75	8.79	25.13	60.63	88.18	32.31	46.43	13	27.61
Tools for Craftwork	0.95	2.41	1.56	6.85	8.83	0.48	2.22	19.75	80.86	0	9.34
Other	3.54	0	5.5	6.54	16.85	49.35	95.65	56.25	0	0	19.07
Wages for Labour	34.14	2.92	3.89	43.65	156.91	249.52	183.04	66.88	110.6	7.14	86.99
Rent	0	0	0	0	108.86	169.74	155.74	0	136.57	0	51.48
YEAR TOTAL	321.21	106.24	214.33	637.79	1587.65	1701.92	1602.71	797.2	1269.05	135.99	840.85

Table continues...

TABLE 6.21 continued

ITEMS	BASKETRY (N=99)	BEAD-WORK (N=24)	SKIN-WORK (N=18)	CARVING (N=52)	LEATHER-WORK (N=47)	WEAVING (N=31)	TEXTILES (N=23)	POTTERY (N=16)	JEWELLERY (N=21)	MISC. CRAFTS (N=7)	TOTALS (N=338)
NON-DURABLES (PER MONTH)											
Food	49.1	24.6	44.61	95.58	102.13	94.03	97.91	72.06	85.24	30.71	74.01
Fuel	2.54	3.07	1.51	8.3	31.1	20.01	29.1	27.38	24.22	0	13.7
Clothes	16.46	12.42	7.33	23.65	50.23	36.22	31.37	31.75	49.29	2.5	27.56
Raw Materials for Crafts	0.69	0.38	13.87	4.85	3.51	0.05	0	1.25	74.43	1.43	7.21
Toiletries	0.41	0	0	6.12	0	0	0	1.44	1.9	0	1.28
Other	0.62	0.21	5.67	2.5	6.51	8.55	4.7	0	0	3.14	3.04
MONTHLY TOTAL	69.82	40.67	73	140.99	193.48	158.85	163.07	133.88	235.07	37.79	126.79
X 12 months	837.84	488.08	875.97	1691.88	2321.74	1906.2	1956.89	1606.5	2820.89	453.43	1521.45
GRAND TOTAL (AVE.)	**1159.04**	**594.32**	**1090.3**	**2329.67**	**3909.4**	**3608.12**	**3559.59**	**2403.7**	**5368.04**	**589.41**	**2362.3**

Another question (6.3) was posed to female respondents to gain an understanding of the control (or lack there of) that women have over their own earnings. Almost three-quarters of the female producers said they could make their own decisions regarding the use of their own earnings. About 17 percent said they discuss the issue with either their husband or parents before a decision is made. Only a few must hand the money over to their husbands (seven percent) or to their parents (two percent).

TABLE 6.22 HOW PRODUCERS WOULD USE 'EXTRA' CRAFT EARNINGS

USE	ALL PRODUCERS (N=341)	MALES (N=113)	FEMALES (N=228)
Buy food, clothes, other basic household goods	31%	27%	31%
Build or expand house	21%	14%	23%
Buy cattle	18%	20%	17%
Save	18%	25%	14%
Buy small-stock	14%	15%	12%
Buy furniture	8%	2%	11%
Start-up another business	3%	4%	2%
Start own craft business	2%	3%	1%
Pay school fees/purchase uniforms	2%	2%	2%
Give more to relatives	2%	3%	2%
Buy donkeys/horses	2%	5%	<1%
Buy more craft tools/materials	2%	4%	<1%
Buy farm equipment/improve land	1%	<1%	1%

Source: Individual Producers Questionnaire
Notes: Totals are greater than 100% due to some respondents stating more than one use. Less than 1% of the respondents suggested other uses: to buy cars, radios, beer; pay off debts.

6.2.9 Craft Producers' Impressions about the Importance of Handicrafts

Attitudes towards Crafts

Beyond the monetary value of craft production and the sector's employment capabilities, more subtle benefits that might be derived from the handicraft sector were explored during the research. Individual producers were asked if they were, in general, "...happy

making crafts?" The majority (79 percent) responded positively, while 15 percent said they were not happy, five percent did not know, and one percent felt neutral about their craftwork. Regarding perceived happiness, there was no statistically significant difference between the different craft categories, men and women, contemporary and traditional producers, or urban and rural producers.

For those who responded positively, a variety of reasons were given: managing to make a living from crafts (130), crafts are the only way to earn a living (32), enjoy making crafts (26), "the work we do is a God-given talent" (19), "craftwork helps my household and solves many of our problems" (9), the traditional work helps to carry on the culture (9), craftwork is flexible, you can work when you want (6), and "it is my life" (5). Negative responses included: money earned was too little (23), not happy with craftwork, but there was nothing else to do (8), market is poor (4), the work is too tough or tiring (4) and cannot negotiate with buyers (2). Several of those who did not know whether they were happy or not, explained that they "...would be happier if [they] were making more money."

As another indication of the perceived (dis)contentment level with craft production, producers were asked if they were unable to sell their crafts, would they make them anyway. The same percentage of producers (47 percent) would continue to produce as those who would stop, while six percent did not know. Interestingly, three producers were incredulous, saying that it would never happen that they could not sell their crafts. Most of the producers who would stop felt that there was just no point in creating crafts if no money could be generated. More insights into the producers' thinking were provided by those who would carry on producing, as follows: keep producing in hope of selling at some point in the future (40), use the crafts themselves in the home, field or for hunting (36), enjoy the work (10), use the product for barter (4), give the products away as gifts (4) and producing crafts is "just a part of life" (3).

Finally the producers were asked what they thought other community members' perceptions were on craft production and producers. Exactly half the producers interviewed felt that other people had a positive outlook on handicrafts, while 19 percent

felt that non-producers looked down upon the sector and 14 percent said others were either neutral or indifferent about the craft field. The remaining respondents did not know what others thought. Examples of producers' positive impressions about non-producers' perceptions were given: very interested in what we do and like our products (97), want to be taught to make crafts or be hired to work (13), our production is important (11), producers are clever and talented (9), buy from us because they like our products (7), producers are well off and have a better life than non-producers (6) and craftworkers are the holders and carriers of tradition (3).

Negative opinions were as follows: craftwork is foolish and a waste of time (55), others laugh at us because our quality is poor (3) and our production causes poor health such as bad backs and TB (2). Fifteen respondents thought other villagers were jealous of them because they are making money from craft production.

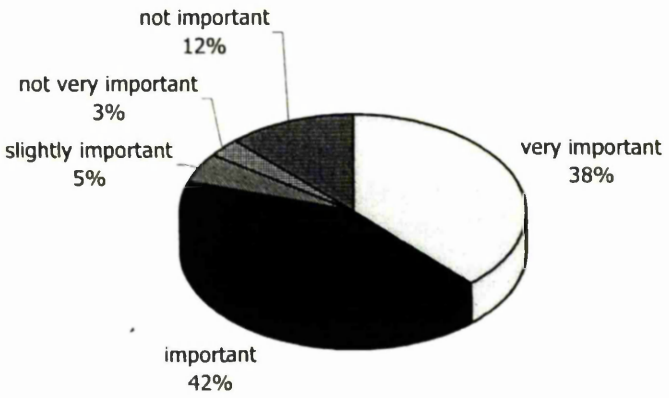
Contribution to Development

In any developing country with limited human and natural resources, an examination of a specific sector's general contribution to development is important. Individual producers were questioned on their impressions about the handicraft sector's contribution to Botswana's development.

Over three-quarters of 295 individual producers felt that today's handicraft production contributed to the development of their village or town. Individual respondents were asked to rate how important the craft sector was to the development of their village (Figure 6.4), and cite specific examples: provides a living to community members (91), provides useful products needed by people in the village/town (31), provides jobs, so people do not have to leave (17), improves people's lives (16), "our village is famous because of the crafts made here" (11), creates and encourages cooperation in the village (11), adds to the cultural and educational development of the village (11), able to build infrastructure such as: schools, clinics, water points through craftwork earnings (9), backward and forward economic linkages (5) and volunteer craft advisors working in villages have helped to develop the village (3). See Appendix 6.1, Box 6.2 for specific quotations from individual producers.

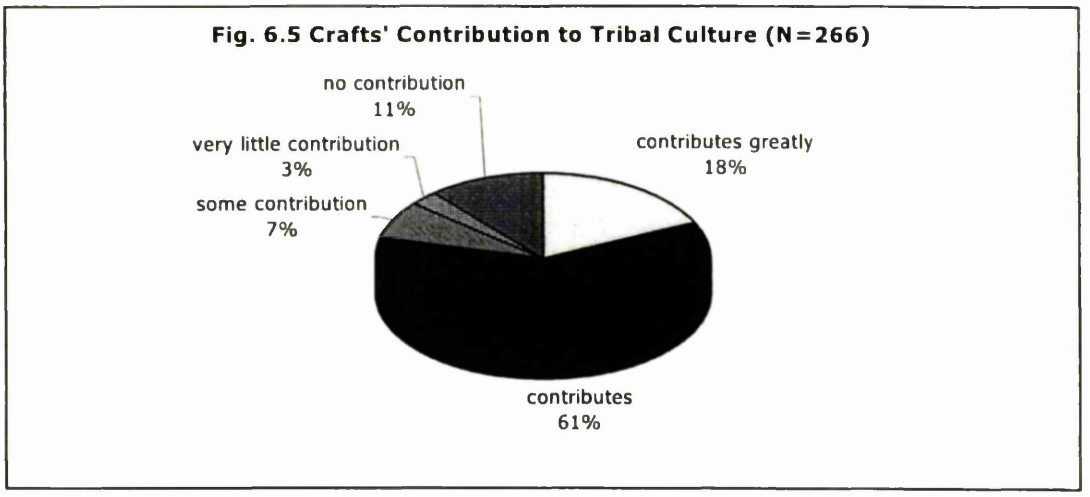
Those who felt craftwork contributes very little or nothing to development gave various reasons: earnings are so small that the craft sector does not help individuals and they cannot contribute to the village development (19), just do not see any development (15), does provide income to some individuals but there is no connection between that income and village development (9) and causes conflicts, and creates jealousies (2). One Tsodilo Hills producer brought up an interesting problem of lack of development that occurs in a few remote villages: "Even if I make a lot of money from selling my crafts, what can I do with the money I make? There is no place here to buy anything!"

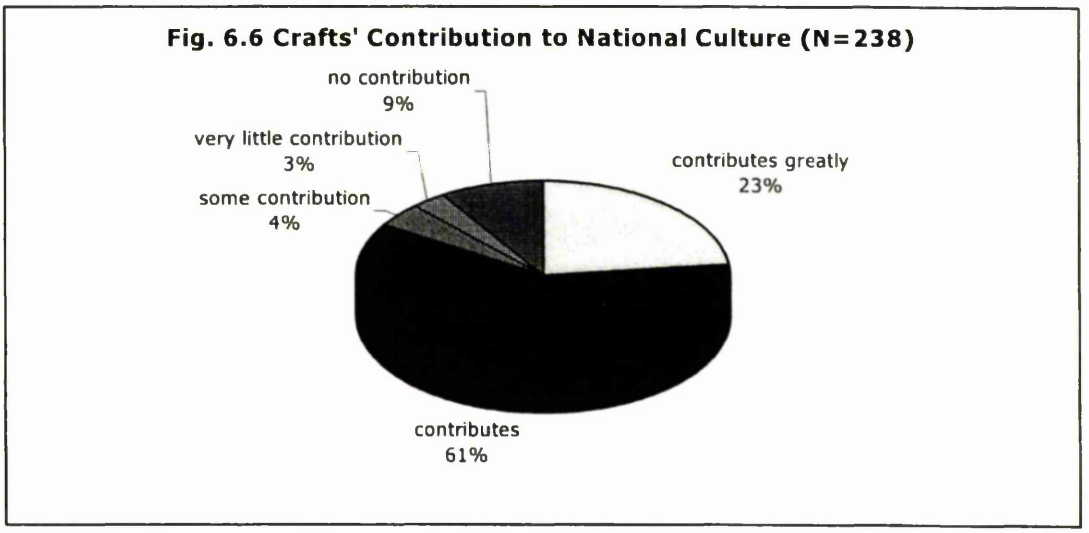
Fig. 6.4 Importance of Craft Sector to Village Development (N=295)



Cultural Value

Before the research began it was assumed that handicrafts would be perceived positively from both a financial and cultural point of view. This idea was confirmed during the individual producers' survey when over three-quarters of the producers stated that craftwork was definitely a part of their culture. A similar proportion also felt that the sector today was contributing to the continuation of their particular tribal culture and preserving the culture from extinction (Figure 6.5). An even larger number (84 percent) believe that the craft sector is contributing to national culture (Figure 6.6). About a third of the producers pointed out that specific villages and the nation at large are known for certain crafts, and from these cultural products and activities people could learn about the cultures of Botswana.





A variety of explanations were given to elaborate on these positive responses. Almost half the producers noted that their ancestors, grandparents and parents have been producing these crafts, and thus, this long-standing cultural work helps their culture to endure. Many also expressed the opinion that it was quite good that children were learning from their parents, which will help to uphold the culture. The fact that traditional crafts are positively received in the market and an income can be earned through craft production encourages increased production and the continuation of that material culture. A basketmaker from Danega explained, "The younger generation have taken up the art of basketmaking because they can make money and save their culture."

Additionally, the production of certain products, such as dancing skirts, skin mats, winnowing baskets and hunting sets, guarantees that certain traditional practices can continue. One woman noted that, "People will continue to use the crafts and safeguard the culture, if people will continue to make crafts." Another example was mentioned by a skinworker, "People plead with me to continue making these mats, because they are needed for the traditional wedding ceremony."

Some producers noted that the cultural activity of craftmaking was still going on in Botswana, but as in all places, culture is fluid, changing and evolving. For instance, occasionally one cultural group was teaching another and creating a positive cross-cultural exchange. As a specific example, a few Yei weavers mentioned that some Herero women, who are not basketmakers by tradition, have asked to be taught basketry. Secondly, even when the products are not traditional, the craftwork remained a part of the culture, because of the traditional materials used (e.g. clay, skins, palm and bone). Thirdly, certain non-traditional crafts such as wool weavings, printed textiles, and ceramics also contributed to culture because the designs depict traditional life. Finally, according to the producers, the production and marketing of contemporary products introduced by the West can be considered a cultural activity, because Batswana buy the products, use them or decorate their homes, and the contemporary product becomes a part of the evolving culture. Detailed comments from individual producers regarding crafts and culture can be found in Box 6.3 in Appendix 6.1.

Those producers (22 percent) who did not feel their craftwork was a part of their culture gave their reasons. Forty producers mentioned that their crafts were introduced and taught by Europeans or Whites and were therefore not part of any African culture. Similarly, some craft ideas are taken from other Black cultures in Africa, but "these crafts have nothing to do with our culture" and "they don't describe our culture." Four producers went even further, mentioning that another tribe in Botswana was overshadowing their tribe and their culture.

Only five respondents argued that some traditional crafts are no longer part of their culture, because the items are only made for commercial sale and not used anymore. A

few producers noted that their crafts were not being bought by buyers from outside their immediate area, so there was no opportunity to contribute to the national culture of Botswana. Only three producers expressed their concern that few people were interested in learning the craft skills, so none of the traditions would be carried on. One producer felt that there were just too few craft producers to make a contribution.

6.3 PRODUCTION UNITS

6.3.1 Background on Production Units

At the start of this study, 51 production enterprises or units were identified around Botswana (Appendices 4.1 and 4.7) with most located along the 'line-of-rail' (see Map 3.4). Forty percent are in urban areas and 60 percent in rural areas, noting that even along the 'line-of-rail' many of the smaller towns are considered to be 'rural'. For this study, 33 units were interviewed, with 36 percent urban and 64 percent rural (see Appendix 5.4 for the questionnaire). At the time of the survey, the 33 units had been in operation from less than one year up to as many as 22 years, with an average of 9.2 years. During the period that the survey was conducted, one enterprise closed in Lobatse and two opened, one in Gaborone and one in Serowe.

Information on ownership (Table 6.23) provides insight into the Botswana handicraft sector in general, and some assumptions about the manner in which a production unit operates. For example, with the largest portion (33 percent) registered as non-profit organisations, the presence of supportive donor organisations is evident, and although encouraged to at least break even, strict emphasis on business management approaches may not be fully required. The next most common form of ownership is 'by citizens', which indicates the extent of the business-support structures in Botswana. The existence of only one formally registered cooperative suggests that the cooperative movement has never really taken off in Botswana (with the exception of co-op retail stores), and those who are interested in registering as a cooperative must face restrictive requirements and bureaucracy.

Regarding the various operations of the production units, some units wholesale, while others retail and some do both, as can be seen in Table 6.24. Less than half export their products, although as we will see later, few units export great amounts.

TABLE 6.23 TYPES OF OWNERSHIP OF PRODUCTION UNITS (N=33)

TYPE OF OWNERSHIP	NUMBER	PERCENT
Non-profit/NGO/Trust	11	33%
Private/profit-making (citizen-owned)	9	27%
Private/profit-making (expatriate-owned)	5	15%
Formal group, but not yet registered as a cooperative	3	9%
Formal group, but not yet registered as a business	2	6%
Private/profit-making (dual ownership)	2	6%
Cooperative	1	3%

Source: Production Unit Questionnaire

TABLE 6.24 PRODUCTION UNITS' OPERATIONS (N=33)

TYPE OF OPERATION	NUMBER	PERCENT*
Production	33	100%
Wholesale	32	97%
Retail	23	70%
Export	14	42%
Provides food/drink service	2	6%
Runs small tannery	2	6%
Attached to school for handicapped	2	6%
Runs small guest house	1	3%
Exhibition/gallery space	0	0%

Source: Production Unit Questionnaire
Notes: Percentage total is greater than 100 percent because most undertake several operations.

6.3.2 Employment and Wages

Within the 33 enterprises interviewed, 534 people were employed,[20] with 315 being urban dwellers and 219 rural. Employment figures in the different craft categories are: leather (252), weaving (144), textiles (71), jewellery (30), pottery (27), miscellaneous crafts (7), and carving (3).

One-third of the enterprises has between one and five employees, one-third has six to 15, and the final third employs between 17 and 41 people. Only one unit employs more, with 130 employees. The median employment figure for all units is ten, while the median for urban is 14 and seven for rural.

Almost three-quarters of the craftworkers in the surveyed units were women. Over half the units hire only women, while two units have only male workers. The all-women enterprises clustered around jewellery, weaving and textiles, although two pottery units and one leather unit had only female producers. More of these are found in rural areas than urban. The two all-male units represent leather and horn production work, and both are found in rural areas.

Most units employ only full-time workers, while three have only part-time employees and two operate with both full- and part-time workers. Thus, 88 percent of the 533 workers in the surveyed units receive benefits from having full-time positions. For some, this means full employee benefits including insurance and pensions. For most it simply means knowing they will be paid for a full month of work each month, something that only 24 percent of the national labour force enjoys (Alexander 1991:42).

Almost P1 million in wages are paid annually to the 386 workers of 30 responding production units.[21] The smallest total annual payroll was P1,440 at a new pottery unit with three employees/trainees, while the largest was paid by one textile unit to 35

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[20] If the total figure is extrapolated up to the 47 'known' production units operating in Botswana, some 700 people are employed in formal craft production.

[21] Bonuses, 'the 13th cheque', and benefits are not included in this amount. Three production units refused to answer the question on wages.

employees for a total of P130,000.[22] The average production unit has a payroll of P32,021 per annum. The lowest annual salary per worker was P600, earned by a pottery trainee, while the highest annual salary was earned by the manager of a weaving workshop at P21,972. The average wage per worker from the 30 formal production units was P2,489 per year. Workers in urban units earn more at P2,871 per annum on average, as compared to rural workers at P2,372 per annum. It is interesting to compare these figures to the average annual income for informal craft producers, which is P384 (see Table 6.18). When the wage payment figure for the surveyed units is extrapolated to cover all 47 units, an estimated P1,742,000 is paid annually in wages.

6.3.3 Production Practices

Almost without exception, all the formal enterprises are producing contemporary crafts rather than traditional.[23] Reasons for making particular crafts were given, with the most common response being "instructed to make these products by the owner or manager" (39 percent). Other responses included: sells the best (13), easiest to teach unskilled producers and to produce (6), owner or manager knows how to design and produce (5), useful/functional items that people want (4), best use of available natural resources (3), best for the craft process used (2) and different from the competition (1).

At 31 of the production units, an opportunity was available to examine craft products and judge them for quality. Typically, a range of quality was found at each unit. Collectively, 61 percent of the production units had some products of poor quality, 55 percent had average quality products, 84 percent had good quality, 81 percent very good and 42 percent excellent.

Three-quarters of the units noted variations in their production rates. Reasons given for these variations included: orders affect production rate (7), increased preparation for busy

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[22] Presumably the unit with 130 employees has a larger payroll, but the amount was not released.

[23] Exceptions include a few leather units making 'improved' versions of traditional skin mats, and contemporary pottery workshops producing some 'traditional' pots that can be fired in modern kilns.

holiday periods (7), the weather affects production (7),[24] availability of raw materials (6), skill level of producers (i.e. the number of regular workers versus trainees) (2), health of the producers (1), extent of other tasks (e.g. administration and marketing) (1). The annual cost of production among 28 production units willing to provide this information ranged from P2,000 to P466,043. The median was P27,162.

6.3.4 Skill Acquisition and Required Training

By far, the majority (91 percent) of production units have producers who learned their craft skills 'in-house', from the unit owner, manager or skilled employee. About a quarter of the units also have producers (and many of the owners and managers), who learned at a technical school or centre. Other skill-acquisition methods include: on an earlier job/project (9 percent), by someone from outside the unit coming to teach (3 percent), overseas (2 percent), informally by a friend (2 percent), and self-taught (1 percent).

About 60 percent of the units have someone with at least some training in design. Of these 19 units, twelve have workers who received some design training from the unit owner or an expatriate advisor. Nine had one or two producers attend a two-week course sponsored by RIIC. Two received some design training while attending a pottery or leather course. Three people from three different units trained in design overseas. For the 14 units who had no members trained in design, six units just continue to repeat the designs that they were taught when first learning their craft. Four enterprises create designs on their own by trial and error, while three are given new designs by the owner or an advisor, and one unit from their principal buyer. Three units claim to just look at similar products and copy design ideas, while one unit copies traditional, old designs.

All but one unit felt their producers needed more training. The one unit owner who responded negatively to the idea of formal training stated, "skill upgrading can be done in-house and I will do the designs because the producers either do not want to or are unable to create new designs." From the majority who did want more training, the

[24] For example, rainy weather makes it difficult to dry pots and to wash screens for silk-screen printing; people do not want to buy sandals in the winter or woollen jerseys in the summer.

following disciplines were mentioned: design (23), upgrading existing skills (10), product development (7), drawing (7), new craft skill (6), bookkeeping (6), pattern-making (4), production management (2) and general business management (1).

6.3.5 Raw Material and Equipment Utilisation

This section highlights findings from the production unit survey on raw materials and equipment used in formal production. In contrast to the individual informal producers, far less plant resources are utilised in formal production. Only three plant species, but more than 16 animal species, are used in formal production. Of the animal species, seven are used in the formal sector that are not used in the informal sector, presumably because they are expensive or difficult to obtain. These include the skins of ostrich, buffalo, elephant, ostrich, leopard, lion, crocodile and snake. Six other natural resources are used, including clay, various semiprecious stones, and precious and semiprecious metals. Some 18 different manufactured materials, such as cloth, chemical dyes, thread, glue, ink, paint, and pre-made findings for the jewellery and leather industries, were mentioned by the production units that responded.

An equal percentage of production units (79 percent) obtain their raw materials from suppliers in South Africa and from Botswana. About 15 percent send unit members out to the bush to collect materials. Twelve percent obtain materials from Europe or North America, while nine percent buy from other African countries. Information on the value of raw materials obtained in Botswana versus outside Botswana was not collected, but it should be noted that much of the manufactured raw materials purchased inside Botswana are imported. The average amount spent per unit on raw materials varies dramatically, from a low of P24 per month by a pottery unit to a high of P20,000 by three different leather units. The median amount spent monthly per unit for 22 production units is P474.

Just over half the units said that they do have some problems obtaining the raw materials they require. Nine problems were described (Table 6.25), with the chief complaints concerning availability of the materials or cash to purchase materials.

TABLE 6.25 RAW MATERIAL PROBLEMS FOR PRODUCTION UNITS (N=17)

TYPE OF PROBLEM	NO. OF TIMES CITED
Must pay for raw materials or for transporting materials/ materials are expensive	7
Difficult to find/not always available	5
Difficult to get good quality/right type of raw materials	5
Must order materials and takes long time to receive	4
Shops have poor supply/selection of manufactured materials	2
Must pay cash for materials, but customers pay for finished products only after 30 days, creating cash flow problems	2
Must buy raw materials in bulk, often do not have cash to do this	2
Raw materials are far away/long journey to reach materials	1
No transport to collect raw materials	1

Source: Production Unit Questionnaire
Notes: Number of responses are greater than total because some cited several problems.

Amongst the 20 units that responded, a vast range between P200 and P100,864 has been spent per unit on tools and equipment, with the median figure at P11,000. Similar to the situation for raw materials, the unit that is the most capital-intensive is a leather enterprise. A variety of methods are undertaken by the units to obtain their equipment, with most units employing more than one method (Table 6.26).

TABLE 6.26 METHODS FOR OBTAINING EQUIPMENT/TOOLS (N=27)

METHODS	NO. OF TIMES CITED
Production unit paid cash	16
Through FAP grant	11
Through bank loan	9
Donor provided funding to unit	9
Through a grant provided with training (e.g. LG-17, TGSF)	3
Borrow tools	1
Lease equipment	1
Unit made the tools	1

Source: Production Unit Questionnaire
Notes: Number of responses are greater than total because some employ several methods.

6.3.6 Marketing Practices

Tables 6.27 and 6.28 depict the units' marketing methods and clients. Among 23 units, the sales mark-up ranged from 25 to 100 percent, with the average being 50 percent. Of 27 units, 74 percent provide discounts under certain circumstances, such as for large orders. Of 33 units, 16 export at least some of their production. The portion of products exported ranges from five to 90 percent with an average of 30 percent. Nine units export to South Africa, making it the main place receiving Botswana crafts. Three units export to Zimbabwe and England, while two send crafts to the United States and Lesotho. Other countries only have one unit each sending them crafts: Canada, Denmark, Finland, Germany, Norway, Sweden and Zambia.

TABLE 6.27 MARKETING METHODS FOR PRODUCTION UNITS (N=33)

MARKETING METHODS	NO. OF UNITS
From workshop	22
From own retail shop	19
Gaborone Mall at month-end	15
Trade fairs within Botswana	15
Through special orders	7
Trade fairs outside Botswana	4
At exhibitions	2
From a local marketplace	1

Source: Production Unit Questionnaire
Note: Number of responses is greater than total because some use several methods.

TABLE 6.28 PRODUCTION UNITS' CLIENTS (N=33)

TYPES OF CLIENTS	NO. OF UNITS
Expatriates living in Botswana	25
Tourists/visitors to Botswana	23
Batswana from outside the area where the workshop is located	22
People living in the area where the workshop is located	21
Botswanacraft Marketing Company (B/craft)	21
Export market	16
Retail shops (other than own)	14
Commercial middleman/wholesaler	2

Source: Production Unit Questionnaire
Notes: Number of responses is greater than total because some respondents market to various buyers.

6.3.7 Status of Craft Production Enterprises: Fixed Assets, Expenses, Sales Turnover and Profitability

Information was collected on the units' fixed assets (Table 6.29), expenses (Table 6.30) and sales turnover so that the status and profitability of the surveyed units could be analysed.

The annual sales turnover of 28 reporting production units ranged from P3,200 to P616,747, with the average turnover calculated to be P108,998.[25] The total sales turnover for the 28 units is just over P3 million. When this figure is extrapolated to include all 47 production units, then almost P5 million worth of craft products are sold from formal production units per annum.[26]

Among the surveyed production units, 18 reported both expense and sales figures so that profit or loss could be calculated. These figures ranged from a loss of P11,135 for a pottery enterprise to a profit of P197,893 for a textile unit. Of the 18 units, 61 percent reported a profit for the year surveyed. Of these 11 units that made a profit, seven were rural and four urban. The craft categories of leather, textiles and jewellery each had three profitable units, while weaving had two. The seven units reporting a loss included: three pottery, two weaving, one textile and one making miscellaneous products. This small analysis suggests that contemporary pottery enterprises are not profit-making and may not be worth going into. This finding supports opinions formulated before the survey, that 'slick' commercial pottery does not have a market among tourists or expatriates because this market expects something 'more African'. Equally, there seems to be a limited market amongst Batswana, because they seem to prefer cheaper, mass-produced ceramics imported from South Africa. Table 6.31 further analyses the types of production units that show profits rather than losses.

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[25] SD = 165,628

[26] See Appendix 5.7 for extrapolation method.

TABLE 6.29 ASSESSMENT OF FIXED ASSETS

TYPE OF ASSET	% OF UNITS OWNING ASSET	VALUE (P) RANGE	MEAN
Buildings (N=18)	44	16,955 – 73,000	20,758
Land (N=18)	0	0	0
Vehicles (N=18)	40	3,222 – 30,000	6,154
Furniture (N=18)	67	200 – 71,198	6,795
Office equipment (N=18)	22	50 – 1,000	107
Tools and equipment (N=20)	100	200 – 100,864	19,843
Total assets (N=22)*	100	260 – 185,740	44,868

Source: Production Unit Questionnaire
Notes: * Four units have only total fixed assets listed in their financial statements.

TABLE 6.30 ANNUAL PRODUCTION UNITS' EXPENSES

TYPE OF EXPENSE	% OF UNITS WITH EXPENSE	VALUE (P) RANGE	MEAN
Raw materials (N=22)	100	288 – 240,000	54,486
Wages (N=30)	100	1,440 – 130,000	32,021
Travel and accommodation (N=19)	95	15 – 5,813	1,650
Administration (N=19)	47	104 – 3,368	872
Insurance (N=19)	32	1,000 – 3,983	724
Rent (N=19)	37	225 – 99,999	677
Post and telephone (N=19)	37	70 – 2,517	590
Advertising/promotion (includes printing) (N=19)	63	25 – 3,607	565
Utilities (N=19)	53	93 – 2,681	463
Repairs and maintenance (N=19)	42	16 – 3,883	427
Accounting/bookkeeping (N=19	21	175 – 5,700	417
Vehicle repairs (N=19)	10	2,015 – 5,629	403
Interest on loans (N=19)	16	262 – 4,175	302
Bank fees (N=19)	32	25 – 342	43
Packaging (N=19)	6	600	31
Total expenses (N=19)	100	6,942 – 140,238	33,310

Source: Production Unit Questionnaire

TABLE 6.31 PRODUCTION UNITS MAKING PROFIT OR LOSS (N=33)

	NO. OF UNITS			
TYPE OF UNIT	PROFIT	LOSS	INSUFFICIENT DATA	TOTAL NO.
Non-profit (NGO/Trust)	2	3	6	11
Profit-making (citizen-owned)	3	2	4	9
Profit-making (ex-pat-owned)	2	0	3	5
Profit-making (citizen & ex-pat)	0	0	2	2
Formal group (not yet registered as coop)	1	2	0	3
Formal group (not yet registered as business)	2	0	0	2
Cooperative	1	0	0	1
TOTAL	11	7	15	33

Source: Production Unit Questionnaire

6.3.8 The Significance of the Formal Craft Sector to Development and Culture

All but one production unit respondent felt that handicraft production is important and definitely contributes to the development of their community and country. In fact, 59 percent said the handicraft sector is "very important" and 41 percent stated "important". Over half thought their unit made an important contribution to development because it provided employment to many community members. Several craft enterprises were the largest employers in the village or town. Other ways in which craftwork contributes to development included: provides jobs so people do not have to leave (3), people have learned useful skills (3), provides useful products needed by people in the village/town (1), adds to the cultural and educational development of the village (1), helps the village/town to become 'modern' (1) and brings in foreign exchange earnings (1). Clearly, the production units agree with the individual producers that the craft sector's main contribution to development is that it provides employment and generates income.

Regarding any contribution to culture, exactly half the unit respondents felt that the formal craft sector makes no contribution to the culture of the people of Botswana. These people felt that their craftwork has nothing to do with Batswana culture, mainly because

most of the crafts made in formal units have been introduced and taught by Europeans or whites, and are therefore, not part of African culture.

For the other half of the respondents, 12 percent felt that "crafts make some contribution to culture", 25 percent said that "crafts contribute to culture", and 13 percent stated that "crafts contribute greatly to culture". Reasons given included: crafts help to preserve the culture from extinction (2), people can visit and learn about the cultures of Botswana through crafts (2), production unit crafts are not part of the Batswana culture but the designs on the crafts do depict the culture (2), and the end product may not be traditional but the materials are, and this preserves the culture (1).

6.4 MARKETING OUTLETS

During this study, 48 craft marketing outlets were identified across Botswana (Appendix 4.8). These outlets, logically, tend to be in the large towns of Gaborone, Francistown and Lobatse, and the tourist areas in and near Maun and Kasane, with 35 percent in urban areas and an equal portion in tourist areas. The remaining 30 percent are rural-based, setting up business in these remoter locations because they exist to support production units or informal producers working nearby (Map 4.12).

The outlets fit into seven different categories (Table 6.32). The category that any one outlet falls under often determines the types of crafts stocked and can affect sales performance. For example, market outlets catering to tourists travelling on small aircraft and with limited luggage space mainly stock small or easily transportable items (Ngamidata 1988). Outlets that consider craft-selling their primary activity usually sell more crafts than those that sell crafts as a sideline.

TABLE 6.32 TYPES OF CRAFT MARKETING OUTLETS (N=48)

TYPE	NO.	PERCENT
Craft shop or sales point selling primarily craft items, attached to a lodge, hotel or safari camp	13	27%
Craft shop selling primarily craft items, attached to a production unit	12	25%
Craft shop selling primarily craft items, not connected with any other type of operation	10	21%
Retail shop selling some craft items along with other goods, such as food and household items	5	10%
Craft shop selling crafts in support of informal producers from a specific geographical area, but not connected with a production unit	5	10%
Craft shop attached to a museum	2	4%
Art gallery selling a few crafts	1	2%

Source: Sample frame, Craft Market Outlet Questionnaire and Ngamidata Questionnaire

To gain a better understanding of the craft industry, detailed information was obtained from 29 of the 48 identified outlets (see Appendix 5.5 for the questionnaire).[27] For instance, the manner in which the craft outlets are registered adds to the understanding of how the shops operate (Table 6.33). It is not surprising to find more non-citizen owned shops and non-profit shops than other types. With a few notable exceptions, few Batswana have had the right combination of interest and experience needed to run a craft shop. One must like and enjoy crafts and craft producers, know what the customer (usually a tourist or expatriate resident) desires, and have an adequate background in business, sales or marketing to survive. Batswana with this aptitude for business would probably choose a more profitable industry in which to work. The non-profit marketing outlets exist due to donor interest in supporting the handicraft sector.

[27] Of the 29 outlets that responded to the market outlet questionnaire, three refused to provide sales figures, making 'full' information available on 26 marketing outlets. Selected information was available on some outlets that did not respond to the thesis questionnaire through either general knowledge and experience or from the 1988 Ngamidata study in which 15 tourist operations were interviewed. Some tables and text reflect this secondary information.

TABLE 6.33 TYPES OF OWNERSHIP (N=33)

TYPE	NO.	PERCENT
Private/profit-making (expatriate-owned)	12	37%
Non-profit/NGO/Trust	11	33%
Private/profit-making (citizen-owned)	5	15%
Private/profit-making (dual ownership)	2	6%
Parastatal	2	6%
Government-run	1	3%
Cooperative	0	0%

Source: Craft Market Outlet Questionnaire

At the time of this study, the number of years in which outlets have been operating averaged 8.5, but this varied considerably, between less than one year and 28 years. During the survey, two shops closed, including one in Gaborone and one in Kasane. One hundred people were employed as part of the craft-market operation of the 36 responding outlets. Of these employees, 83 were female. If this figure is extrapolated up to the 48 outlets, an estimated 117 people, including 97 women, are employed on the marketing side of the craft sector for Botswana.

As can be seen in the Table 6.34, individual outlets often undertake more than one type of activity. Not surprisingly, many realise they can spread their risks when they also engage in wholesale or export activities. The advantage of having additional activities along with retailing is most evident during the tourist off-season when walk-in trade may be slower.[28] Disadvantages occur because most retail shops do not have the storage space necessary for keeping adequate stock for wholesaling or exporting.[29]

[28] Although there are more customers during the tourist season (i.e. April, June to September, and December) in northern Botswana (Barnes 1998:107), 95 percent of the shops surveyed remain open throughout the year.

[29] The average selling space for the shops was 96.75m^2, with the range from 4–900m^2.

TABLE 6.34 CRAFT MARKETING OUTLET ACTIVITIES (N=37)

ACTIVITY	NO.	PERCENT*
Retail	36	97%
Wholesale	19	51%
Export	15	41%
Provides packing/shipping	11	30%
Exhibition/gallery space	9	24%
Organises export licenses from the Department of Wildlife for customers	2	5%

Source: Craft Market Outlet Questionnaire and Sample Frame
Notes: *Percentage total is greater than 100 percent because most outlets undertake several activities.

Information was also obtained on the type of customer that frequents the marketing outlets as noted in Table 6.35. These data readily confirm that the largest portion of the craft market is non-Batswana (i.e. holiday visitors and expatriate residents). Knowledge of the 'typical' customer is useful not only for those contemplating entering the craft retail business, but also for the producers who must design their products for the market. During the Ngamidata study, information was collected on the origin of the 18 tourist camps'/lodges' guests. About one-third came from South Africa and another third from Europe. The remaining third was approximately split between North America and Botswana, and a handful from other African countries and Australia.

TABLE 6.35 TYPES OF CUSTOMERS (N=26)

TYPE OF CUSTOMER	% OF CUSTOMERS FOR 26 OUTLETS
Holiday visitor	37%
Expatriate resident	27%
Business visitor	16%
Botswana citizen, living in the same area	13%
Botswana citizen, from afar	5%
Other	2%

Source: Craft Market Outlet Questionnaire

Turning to an examination of the origin and type of craft product sold, and sales volume by type of product, provides very useful insights into the situation and problems of craft marketing in Botswana. Less than half the crafts sold in Botswana are made in Botswana (Table 6.36).[30] Specific problems on the procurement of Botswana crafts, as described in Section 6.5, shed light on this figure. Only two outlets had nothing negative to say about procurement within Botswana. They felt that the craft supplies in Botswana were good and one non-profit, middleman operation was "wonderful".

TABLE 6.36 ORIGIN OF CRAFT PRODUCTS (N=26)

ORIGIN OF PRODUCTS	% OF TOTAL PRODUCT VOLUME
Botswana	42%
South Africa	27%
Zimbabwe	13%
Zambia	5%
Swaziland	3%
Lesotho	1%
Other African countries	6%
Other non-African countries	3%

Source: Craft Market Outlet Questionnaire

Not surprisingly, craft shops obtain items in a variety of ways. All of the shops responding to the survey purchased crafts from producers who walk into their shop. Just over half (54 percent)of the outlets bought from middlemen or wholesalers, including 43 percent who bought from Gantsicraft, 29 percent from !Kung San Works and seven percent from Botswanacraft wholesale services.[31] A surprising 54 percent claimed to travel out to producers to find crafts, while 32 percent were supplied mainly by their own craft production unit, and seven percent travelled to other retail craft shops to purchase and resell their range of products.

[30] Ngamidata (1988) found that 48 percent of the crafts sold were made in Botswana.

[31] Ngamidata (1988) discovered that less than one-third of the safari camps and lodges tend to procure crafts from wholesalers located in Botswana.

Most of the shops carry various product lines, rather than focussing narrowly, with 59 percent of the shops carrying more than five different product lines. Of the 29 shops responding, the line carried by most shops was, surprisingly, woodcarvings, with 83 percent carrying this type of product. Not surprisingly, baskets were the second most popular product line with 79 percent of the shops selling them. A large percentage of the shops also offered the following items: Bushman products (76 percent), clothing including T-shirts (69 percent), jewellery (66 percent), cards/postcards (62 percent) and contemporary leather goods (56 percent). Slightly less than half the shops stocked textiles (48 percent), woven tapestries and rugs (45 percent), and pottery (45 percent). Books were sold by 24 percent. Only two shops carried artwork (e.g. paintings or sculptures), while one shop carried an extensive selection of beads.

Although marketing outlets carry a variety of product lines, certain types of products appear to sell better than others. Baskets stand out above the rest with 36 percent of the shops saying this is their best-selling item. Opinions on other best and worst-selling items vary widely (Appendix 6.1, Boxes 6.4 and 6.5). Outlet respondents were also asked for their suggestions on new or unavailable products that they would like to stock (Appendix 6.1, Box 6.6).

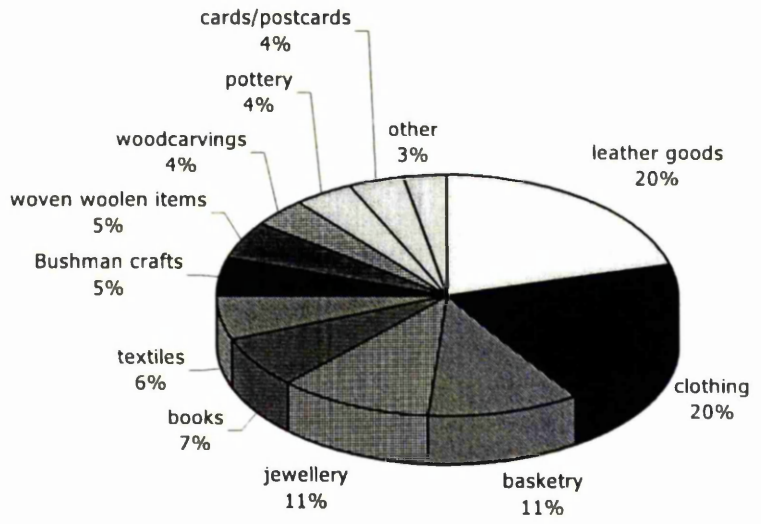
The Ngamidata study did not request information by product type, but by value. They found out that 85 percent of the tourist operations offered medium-value crafts, 77 percent stocked low-value 'curios' or souvenirs, and 61 percent sold high-value items. Again, most individual outlets carried a range of low- to high-value products to cater to various customer tastes and needs.

During the thesis survey, information was obtained on annual sales turnover with a total of P5,603,394 sold annually by the 26 shops who responded to the question. There was considerable variation among the respondents with the smallest turnover at P900 and the largest P900,000. About half (54 percent) of the shops' annual turnover was less than P100,000 worth of goods, while 34 percent of the shops sold over P100,000 but less than P500,000, and the remainder sold between P500,000 and P900,000.

Figure 6.7 provides more information on sales by indicating the percentage of product sales turnover for 26 outlets. Thus, in terms of monetary value, contemporary leather goods sell the most, followed by clothing items (including T-shirts). Basketry and jewellery items follow with equal sales turnover. It is interesting to compare the sales turnover figures with the information on items stocked. For instance, although 83 percent of the outlets sell woodcarvings, they only represent four percent of the turnover. In contrast, just over half the outlets carry contemporary leather goods, but this product represents the largest portion of turnover.

When sales turnover is extrapolated to include the other 22 identified outlets, an estimated P7.9 million worth of products is sold annually from the craft outlets.[32] When the non-craft items (i.e. clothing and books worth 27 percent of turnover) are subtracted from this amount, P5.7 million worth of crafts is sold annually in Botswana. Only 42 percent of this estimated craft turnover represents products made in Botswana, therefore, an estimated P2.4 million worth of Botswana craft items are sold annually.

Fig. 6.7 Product Type as Percentage of Total Sales (P5,603,394) (N=26)



[32] See Appendix 5.7 for extrapolation method.

6.5 STATE OF THE CRAFT INDUSTRY: PROBLEMS AND SOLUTIONS

Individual producers and representatives of production units and marketing outlets were asked to assess the state of their business by indicating and prioritising their problems. Solutions to the problems were explored, along with overall ideas to improve or expand their handicraft business.

The majority of individual producers (83 percent) and all of the 21 responding production units stated that they have problems. Their top 22 problems are ranked in Table 6.37. For both the individual producers and the units, the most frequently cited specific problem was market-related (i.e. few marketplaces and buyers). Of the 22 problems, the most common type of problem, for both the individuals and the units, concerned production. This was followed by raw materials problems for the individuals, and cash flow/income problems for the units.

Almost half of the individual producers and one-quarter of the units could not come up with any solutions to their problems or ways to improve or expand their business. Six producers and three units actually felt that there were no solutions to their problems. This lack of knowledge or consideration is worrisome, but also common amongst most small-scale entrepreneurs in Botswana, not just craftworkers. Lack of problem-solving training and experience in the commercial world pervades the industrial sector. For the individual producers about 70 percent of their solutions were 'internal' solutions, meaning ones that could be activated or controlled by the producers themselves. This figure was slightly higher (80 percent) for the units, suggesting that the production units are not as dependent on outside assistance or 'external' initiatives as are the individual producers (Table 6.38).

TABLE 6.37 PROBLEMS IN THE CRAFT INDUSTRY

PROBLEM	NO. OF TIMES CITED		TYPE
	INDIVIDUAL PRODUCERS	UNIT	
1 No market/no place to sell/no buyers	74	18	marketing
2. Little income/poor wages	70	3	income
3. Difficult to find/obtain raw materials	61	3	raw materials
4. Low prices dictated by buyers	45	1	income
5. Distant raw materials	42	0	raw materials
6. Poor or inadequate tools/equipment	32	3	equipment
7. Injuries/illness from producing crafts	18	0	production
8. No/inadequate/poorly located workshop	15	5	production
9. Distant marketing place/no transport to reach market	13	3	marketing
10. Expensive raw materials	13	2	raw materials
11. Production is difficult/tiring/boring	13	0	production
12. Dangerous animals when collecting raw materials	12	0	raw materials
13. Inconvenient/infrequent buyers' purchasing schedules	11	0	marketing
14. Poor quality products/poor designs	9	16	production
15. Production problems/poor production rate	0	11	production
16. Tough competition	0	7	marketing
17. Lack money/time to do proper marketing	0	5	marketing
18. Poor quality raw materials	0	3	raw materials
19. Useless/unhelpful advisors	0	3	overall
20. No capital/problem to pay off loans	0	2	cash flow
21. Customers do not pay on time/problems with letters of credit	0	2	cash flow
22. Foreign exchange problems/poor rates	0	2	cash flow
23. Train workers and then they quit to work elsewhere	0	2	production
24. Current 'green attitude' hinders sales	0	2	marketing
25. Workers have a 'give me' attitude	0	1	overall

Source: Three survey questionnaires

TABLE 6.38 SOLUTIONS TO PROBLEMS AND IMPROVEMENT POSSIBILITIES

SOLUTION	NO. OF TIMES CITED		TYPE
	PRODUCERS	UNIT	
1. Prices to the producers from buyers should be increased or producers should be allowed to set their own prices	42	0	external
2. Improve skills/take more training	30	8	internal
3. Producers should look for assistance/advice from government	28	3	external
4. Must obtain better tools and equipment	19	3	internal
5. Build a workshop for production or expand existing workshop	18	7	internal
6. Try to find more buyers/markets	16	2	internal
7. Producers should group themselves together and discuss problems and work together	15	0	internal
8. Work harder/spend more time working/be more serious	12	0	internal
9. The producers in a production unit should come together and complain to management	8	0	external
10. Diversify/develop other products	8	3	internal
11. Must find transport: donkey cart or vehicle	6	0	internal
12. Producers should look for assistance/advice from project volunteers/buyers	6	0	external
13. Advertise more or improve advertisement strategies	5	0	internal
14. Search for better advice/better advisors	0	3	external
15. Hire more workers/producers	0	3	internal
16. Build own retail shop/showroom	0	1	internal
17. Try to find/use alternative/better raw materials	0	1	internal

Source: Three survey questionnaires

As for the marketing outlets, 90 percent of 29 outlets claimed to have problems, although the degree of frequency varied considerably. About one-third stated they rarely had problems. An equal number said they sometimes had problems. Eighteen percent said they always had problems. The most frequently cited problems concerned the procurement of crafts made in Botswana, as follows: products desired not available (5), insufficient number of certain products (4), products too expensive (2), unreliable

producers (2), not enough variety (2), quality is poor (1), some production units only give small discount off their own retail price (1), no local craft markets from which retail shops can buy (1), Department of Wildlife regulations for obtaining animal products too confusing and bureaucratic (1), and mark-up by middleman makes products too expensive (1).

Marketing outlets were also asked about factors that might improve sales and lead to business expansion. Responses included: wider variety of products (6), larger display/ sales area (5), more information on the products (e.g. production methods, traditional uses, background information on producers) (3), better quality products (2), better distribution system (1), and having more tourists from Europe or North America (1).

6.6 SUMMARY

To highlight the most important findings from the surveys, a profile of the most prevalent type of producer among Botswana's 5,000 producers has been developed. The typical producer is a non-Tswana female between the age of 31 and 40 years old who makes traditional crafts, which are most likely of very good quality. She probably has not had any formal education. Most likely she resides in a rural area in a male-headed household with six household members.

She works alone in an informal setting, throughout the year, and largely full-time when not occupied with domestic or agricultural duties. The typical producer obtained her skills before the age of 20 from her mother. She has not had further training since first learning, never knowing that any training was available. Nevertheless, she would like to have more training to upgrade the quality of her products.

She most likely uses indigenous plant resources in her work, which she probably collects herself. If she uses wildlife resources, most likely a male relative provides these. In either case, the opportunity cost of time to obtain the materials is considered low. If specifically asked, she would probably be happy to mention all the problems she has related to raw material procurement, with the most likely complaint being the hard journey to find the materials. To solve this problem she might have considered cultivating

the needed materials or asking for transport assistance. To work her materials, she might have spent about P14.00 on tools.

Similar to most producers, she travels without spending any money to a specific meeting place to sell to non-profit buyers, which is to her advantage as long as the buyers provide a reliable service. She tries to sell her crafts about three times per month, although she often has to wait for the buyer to arrive once every two to four months. Like three-quarters of her colleagues, she never sells directly to tourists.

Similar to more than half her colleagues, she is the only member of her household earning a cash income, which is crucial for her family's livelihood. The average annual income earned by her colleagues from craft production alone was P742, with a median of P220. On average, all formal producers and informal male producers earn significantly more than her and her other female colleagues making traditional products. For 46 percent of the respondents, at least one other household member is earning an income. For all the producers, the average household income per annum is P2,057 and the median is P740, making the average producer's family earn less than half the average household income in Botswana. However, even if earnings from crafts appear low, this craft woman, like 77 percent of the producers, says that craft income is either her family's only source of income or the most important source. The fact that her household, and most other producers' households, spend their craft earnings on basic needs further verifies the crucial importance of crafts as a source of income.

Equally noteworthy, two-thirds of the producers said since they earn money from crafts they would never have to leave their village to search for work. Over half felt they would **not** find other work in their immediate area even if they had to try. These findings reinforce the viewpoint that the handicraft sector provides work for people who otherwise have no marketable skills.

Overall, the handicraft sector is viewed positively by both the producers and their non-producing neighbours. For those expressing some negative opinions, clearly better earnings would help to improve the situation. The handicraft sector obviously does play

a positive role in development at the village level. However, to maximise the sector's potential for contributing to development, greater earnings would have to be generated. According to most producers, the craft sector in Botswana is contributing to individual tribal cultures and to the national culture of Botswana. Awareness and encouragement of craftmaking have preserved and enhanced cultural life.

Other than the informal producers working individually, approximately 700 workers (with 75 percent being women) are employed in the 47 formal production units found mainly along the 'line-of-rail' (see Map 3.4). Most units are either run as a non-profit NGOs or privately-owned, profit-making businesses. As an indication of the solid nature of the craft industry, the average unit has been running for 9.2 years, mainly hires full-time workers, and has an annual payroll of P32,000. Most workers are trained on-the-job by the owner or manager, and all but one unit felt their workers needed more training.

Most of the units are creating contemporary crafts using manufactured raw materials or purchased game or domestic skins, with the biggest production problem being the expense and availability of quality raw materials. Most units wholesale their products, but 58 percent also have their own retail shop, and 48 percent export. The year-end balances ranged from a loss of about P11,000 for one pottery unit to a profit of almost P200,000 for a textile unit, with 61 percent of the units reporting a profit during the survey year.

Across Botswana, 48 marketing outlets were identified, located almost evenly between urban, tourist and rural areas. Most are either privately owned by non-citizens or run by NGOs or aid organisations, with the majority connected to a tourist accommodation site or a craft production unit. Like the production units, the outlets are quite stable with the average operating for 8.5 years at the time of the study. Roughly 120 people, mostly women, are employed.

The typical retail customer is either a holiday visitor or an expatriate resident, and 41 percent of the outlets also try to export their products. Less than half the crafts sold are

made in Botswana. This amounts to an estimated value of P2.4 million Botswana crafts sold per annum compared with a total product turnover of P7.9 million.

Interestingly, the biggest complaint of the marketing outlets is the difficulty of procuring quality Botswana crafts in the right amounts, while the chief complaint of the producers is having no place to sell their products. The findings from these three surveys have clearly verified the importance of the craft industry to the individual producers and to the country. These findings also suggest that the positive impact could be greater if the sector is further supported in such areas as training (especially in design, new product development and business skills), marketing advice, and the creation of linkages between the producers and the existing marketing outlets.

7. BOTSWANA'S HANDICRAFT SECTOR AND OTHER NON-FARM, INCOME-GENERATING ACTIVITIES: RESULTS OF SECONDARY INFORMATION RESEARCH AND FINANCIAL AND ECONOMIC ANALYSES

7.1 INTRODUCTION

Information from the literature and the surveys was used to develop the financial and economic cost-benefit models presented in Appendix 7.1 and summarised in this Chapter in Tables 7.3 to 7.7. This chapter summarises the results obtained from the financial and economic analysis of ten craft enterprises, ten non-craft, non-farm enterprises, and one national craft marketing enterprise.[1] Section 7.2 briefly compares agricultural activities with non-agricultural activities to put non-farm activities in perspective with the large agricultural sector in Botswana. Section 7.3 contains some basic information collected from the literature on non-craft activities that could be undertaken by craft producers (based on their education, skill and experience levels). Section 7.4 summaries the results of the analysis of the financial and economic models, first for the craft sector (including production and marketing), and then for the non-craft sector. The chapter concludes with some basic comparative results to set the stage for the fuller discussion of craft and non-craft activities that can be found in Chapter 10.

7.2 AGRICULTURAL VERSUS NON-AGRICULTURAL ACTIVITIES

As mentioned in the chapter on Botswana, agriculture success has largely depended on the variances in the weather, and has been impacted by various government policies – in many instances, negatively. Clearly small-scale, informal sector activities, including handicrafts, are useful for providing work outside the agricultural season and during years of drought (Arnold *et al* 1987:11; Kennedy 1988:24; Hoddy 1989:14). As an example, during the Bank of Botswana rural economic survey conducted on 664 rural households during the drought year of 1986, only five percent of the surveyed households earned cash from crop sales, but 68 percent earned some money from selling livestock (selling off

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[1] Appendix 5.7, which is associated with Chapter 5 on research methodology, fully explains the methods used to develop the financial and economic models. Appendix 7.1 contains the models themselves and details the assumptions for each model. Appendix 7.2 provides background information on the ten non-craft enterprises.

animals before their condition worsened). Of the 664 households, 39 percent earned money through some type of non-agricultural activity, such as crafts, beer-brewing, carpentry and traditional healing (Bank of Botswana 1987:28). One study to examine non-agricultural activities in Chobe District, found that just over three-quarters of the 120 sampled households have at least one member engaged in some type of non-farm, informal activity (Kolhoff and Polet 1990:81). The research for this thesis ascertained that only four percent and one percent of 334 craft producers earn income from selling crops and livestock, respectively (see Table 6.20 in Chapter 6).

A good comparison between income from crops versus from handicrafts, in relation to climatic conditions, can be obtained from examining grain and craft buying records for the village of Etsha in Ngamiland District (Table 7.1). The Mbukushu, who are the main tribal group in Etsha, are not cattle breeders and only a few households have enough oxen to make up a ploughing team. Most are arable farmers and a large portion are also craftmakers. Between 1982 and 1991, the Etsha Cooperative bought a total of P276,000 (or an annual average of P30,700) worth of grain (mainly millet) from the people living in the surrounding area. The yearly purchases ranged from nothing to P190,000 depending on the weather conditions, and other factors such as crops being eaten by birds or locusts. During the same period, an estimated P380,000 worth of crafts were bought from Etsha area producers, with an average of P42,300 per year. While Etsha crop purchases may exceed handicraft purchases during good years, income from crops is non-existent during drought years. Consequently, craft purchases provide, on average, greater and a more uniform income than crops.

As another example, Dorloechter's (1989:50) comments on women's activities in the eastern area of the Okavango Delta:

> "...farmers do not regard arable farming as an attractive income alternative... Although there are some indications that arable farming is an important income source for quite a number of rural women, for most of them it only represents one of a whole set of strategies to make a living. The diversified way of subsistence and income strategies show their high flexibility, which must be understood as a resonance of the insecurity of their circumstances of living."

Clearly the fragility of the agricultural sector has contributed to low and fluctuating rural incomes, and increasing disparity between urban and rural livelihoods. This precarious situation makes rural families diversify into non-agricultural activities to avoid dependence on any one source (Bank of Botswana 1987:28; Morapedi and Jones-Dube 1988:7; Groth *et al* 1992:14). During drought years, successful diversification becomes even more important (Opschoor and Kgathi 1982:29).

TABLE 7.1 GRAIN PURCHASES FROM LOCAL FARMERS BY THE ETSHA COOPERATIVE COMPARED WITH CRAFT PURCHASES FROM ETSHA CRAFT PRODUCERS

YEAR	GRAIN AMOUNT (TONS)	PURCHASES[1] VALUE (P)	CRAFT PURCHASES VALUE (P)
1982	0	0	30,900[2]
1983	0	0	32,500[2]
1984	200	54,000	25,000[3]
1985	20	5,400	24,000[4]
1986	100	27,000	23,000[4]
1987	0	0	50,000[5]
1988	700	190,000	40,000[5]
1989	N/A	N/A	N/A
1990	0	0	60,000[6]
1991	0	0	95,000[7]
TOTAL	1,020	276,400	380,400
Annual Average	204	30,711	42,266

Source: [1] Luca, pers. comm., 1992; [2] Thomas, pers. comm., 1986; [3] Monageng and Terry 1984:1; [4] estimated from buying figures from Terry 1984a and sales figures from Cunningham 1988:4; [5] estimated from Terry 1988f:5 as a portion of total craft purchases in the Ngamiland CFDA; [6] estimated from Botswanacraft's records plus other buyers in 1991; [7] estimated from BCC 1992b plus other buyers; N/A= not available.

7.3 COMPARISON BETWEEN NON-AGRICULTURAL, NON-CRAFT ACTIVITIES AND CRAFT PRODUCTION

Income-generating work in addition to agricultural activities can include formal sector and informal sector activities, manufacturing or service endeavours, and craft and non-craft production. While craft production is a significant part of the rural, informal sector, many non-craft, informal activities also occur, and these are detailed in Appendix 7.2.

Two very different studies in Botswana allow for some comparison of the extent of craft versus non-craft activities in rural areas. A 1968 study estimated that handicraft activities made up just over ten percent of all rural incomes generated from non-agricultural activities in terms of net value added (Landell-Mills 1970:81). A 1991 study, which sampled 900 rural enterprises, noted that handicraft enterprises made up about 19 percent of all non-agricultural activities (SIAPAC 1991:40).

Besides comparing craft and non-craft businesses by looking at value added and the actual number of enterprises, the viability of these enterprises should also be examined. Before starting the task of formally analysing the financial and economic viability, individual producers' and small-scale advisors' perceptions of viability are worth noting. Bishop and Scoones (1994:25,32) quote three producers in Ngamiland regarding the long-term viability of basketmaking in comparison to grass/reed collection and beer-brewing:

> "Life depends on baskets. Grass only comes once a year with rainfall and reeds only following a flood. But baskets can be sold monthly."
>
> "Ones who know how to weave can always make baskets. Those who don't weave only have skill for collecting reeds."
>
> "Beer making is good money, but basketmaking can potentially yield more."

The small-scale enterprise extension officer for Southern District states:

> "We believe the long-term success of FAP assisted projects in Southern District is unsatisfactory. Based on a rough estimate, it appears that only 35 percent of the projects maintain long-term viability." (IFS 1991:3)

Long-term viability can often be dependent on the marketing situation. Groth *et al* (1992:29) place rural production and service activities into two categories: 1) those activities designed to serve the local, rural market, and 2) those activities that serve the non-rural market, that is, either the Botswana urban market or the export market. Rural products, destined for the rural market are highly dependent upon the strength and patterns of rural demand. As already mentioned, low population, limited and fluctuating incomes, and poor purchasing power greatly limit the rural market. Products destined for the urban or export markets must be based on aspects of comparative advantage, such as uniqueness and quality. Many Botswana crafts, in particular the Ngamiland baskets and Bushman ostrich eggshell products, fit this description (Groth *et al* 1992:30). Another aspect of comparative advantage involves production efficiency where the product is sold at more competitive prices than products of comparable design and quality, after taking production, transport and distribution costs into account. Due to the proximity of South Africa's large, efficient industrial sector, Botswana's rural non-craft products do not have comparative advantage, making Botswana's craft sector more viable than the non-craft sector (Groth *et al* 1992:30).

7.4 SUMMARY RESULTS OF FINANCIAL AND ECONOMIC MODELS FOR CRAFT AND NON-CRAFT ENTERPRISES

7.4.1 Background

Tables 7.2, 7.3 and 7.6 summarise the financial and economic cost-benefit models for ten craft production enterprises and one craft marketing enterprise (found in Appendix 7.1), and highlights the main financial and economic characteristics. The ten production models represent the ten craft categories researched throughout this study, while the marketing model generally describes the actual situation found in Botswana throughout the 1970s and 1980s.

Tables 7.4 and 7.5 provide summary data from ten non-craft enterprises, also found in Appendix 7.1. These non-craft enterprises include five main activities that are found predominantly in rural areas (beer-brewing, grass/reed collection and sale, hut building, veld (wild) products collection and sale, and hunting), and five activities that can be

found in both rural and urban areas (sewing, bakery, blockmaking, metalwork and milling).

Each model and the summary data in the tables represent a 'typical' enterprise of that type found in Botswana. The models have been developed with empirical data from this thesis research and from secondary sources including small-scale enterprise studies, project reports and financial statements from individual enterprises. The production enterprises have been grouped into the four summary tables based on comparable patterns of employment and investment. For example, the enterprises summarised in Tables 7.2 and 7.4 all have low initial capital investment and variable and overhead costs compared with the enterprises depicted in Tables 7.3 and 7.5. Similarly, Tables 7.2 and 7.4 represent enterprises operating with very few people, usually just the one entrepreneur, and in one case with an assistant. In contrast, Tables 7.3 and 7.5 portray businesses employing between three and 21 people. Figures 7.1 to 7.5 provide a visual representation of all 21 enterprises by depicting the financial and economic results in the form of bar charts.

As explained in Chapter 5 on methodology, the models are both static (representing one year at full production) and dynamic (representing a period of five years and ten years with discounting). The models measure enterprise viability, both financially (representing the point of view of the producer, entrepreneur or investor) and economically (from society's or the nation's point of view). The financial analysis provides a measure of the inherent private profitability of this type of investment activity. The economic analysis measures the value of the activity to Botswana society or the national income, and therefore is a measure of the 'true' value of that enterprise.

TABLE 7.2 SUMMARY OF FINANCIAL AND ECONOMIC CHARACTERISTICS FOR FOUR INFORMAL, CRAFT ENTERPRISES (in pula, 1990 prices)

CHARACTERISTICS	BASKETRY	BEADWORK	SKINWORK	CARVING
Financial Analysis				
Initial capital investment	7.88	17.05	18.98	87.45
At stability (full production)				
Annual gross income (sales)	327.51	308.00	1092.00	2010.00
less Variable costs	85.96	18.00	294.00	98.00
Gross margin	241.55	290.00	798.00	1912.00
less Fixed overhead costs	222.28	272.83	733.73	1771.19
Annual net cash income	19.27	17.17	64.27	140.81
Typical skilled workers annual wage	220	270	730	1400
Financial worth over five years				
Net Present Value (NPV) (@6%)	16.96	10.59	58.15	188.03
Financial Rate of Return (FRR) (%)	20	13	21	28
Benefit/Cost (B/C) Ratio	1.01	1.01	1.01	1.03
Net Benefit-Investment (N/K) Ratio	1.53	1.35	1.55	1.83
Financial worth over ten years				
Net Present Value (NPV) (@6%)	73.29	59.65	247.55	599.55
Financial Rate of Return (FRR) (%)	33	26	35	39
Benefit/Cost (B/C) Ratio	1.03	1.03	1.03	1.05
Net Benefit-Investment (N/K) Ratio	2.88	2.39	2.96	3.36
Economic Analysis				
Initial capital requirements	8.66	18.76	20.87	96.20
At stability (full production)				
Annual gross economic benefits	360.26	338.80	1201.20	2211.00
less Economic costs	273.89	110.65	819.35	1277.17
Gross Value Added	86.37	228.15	381.85	933.83
Net Value Added	84.29	224.65	377.82	916.42
Capital cost/ Employment opportunity created	8.66	18.76	20.87	48.10
Economic worth over five years				
Net Present Value (NPV) (@6%)	269.40	829.35	1284.47	3233.13
Economic Rate of Return (ERR) (%)	349	892	805	579
Benefit/Cost (B/C) Ratio	1.24	2.80	1.39	1.62
Net Benefit-Investment (N/K) Ratio	36.00	50.75	70.20	38.82
Economic worth over ten years				
Net Present Value (NPV) (@6%)	518.72	1494.35	2404.84	5947.23
Economic Rate of Return (ERR) (%)	350	892	806	579
Benefit/Cost (B/C) Ratio	1.27	2.86	1.42	1.66
Net Benefit-Investment (N/K) Ratio	68.34	90.59	131.16	70.53

Source: Financial and economic static and dynamic models, Appendix 7.1

TABLE 7.3 SUMMARY OF FINANCIAL AND ECONOMIC CHARACTERISTICS FOR SIX FORMAL, CRAFT ENTERPRISES (in pula, 1990 prices)

CHARACTERISTICS	LEA-THER	WEAV-ING	TEX-TILES	POT-TERY	JEWEL-LEWERY	MISC. CRAFTS
Financial Analysis						
Initial capital investment	250720	166078	185022	31136	6929	2986
At stability (full production)						
Annual gross income (sales)	400000	166000	228000	24000	19600	6100
less Variable costs	208300	59500	87150	17450	5125	825
Gross margin	191700	106500	140850	6550	14475	5275
less Fixed overhead costs	118500	88311	117579	23619	16231	8117
Annual net cash income	73200	18189	23271	-17069	-1756	-2842
Typical skilled workers annual wage	3170	2475	3120	2040	1980	2500
Financial worth over five years						
Net Present Value (NPV) (@6%)	194892	4837	11941	-67504	-13260	-13266
Financial Rate of Return (FRR) (%)	36	7	8	N/A	N/A	N/A
Benefit/Cost (B/C) Ratio	1.16	1.01	1.01	0.55	0.83	0.61
Net Benefit-Investment (N/K) Ratio	2.67	1.16	1.22	0.00	0.00	0.00
Financial worth over ten years						
Net Present Value (NPV) (@6%)	434033	60459	89040	-115769	-16153	-20620
Financial Rate of Return (FRR) (%)	40	13	15	N/A	N/A	N/A
Benefit/Cost (B/C) Ratio	1.20	1.06	1.06	0.57	0.88	0.65
Net Benefit-Investment (N/K) Ratio	4.56	1.64	1.82	0.00	0.00	0.00
Economic Analysis						
Initial capital requirements	264429	173288	191423	32927	6857	2905
At stability (full production)						
Annual gross economic benefits	440000	182600	250800	26400	21560	6710
less Economic costs	304148	124559	178366	33929	17794	8070
Gross Value Added	135852	58042	72435	-7529	3766	-1360
Net Value Added	114181	41300	56181	-11320	3513	-1440
Capital cost/ Employment opportunity created	12592	9367	8701	3659	1143	968
Economic worth over five years						
Net Present Value (NPV) (@6%)	291499	64317	99431	-51672	3268	-9561
Economic Rate of Return (ERR) (%)	48	18	23	N/A	24	N/A
Benefit/Cost (B/C) Ratio	1.24	1.11	1.13	0.64	1.05	0.70
Net Benefit-Investment (N/K) Ratio	3.57	1.69	1.96	0.00	1.90	0.00
Economic worth over ten years						
Net Present Value (NPV) (@6%)	609561	170802	249182	-87746	13535	-13890
Economic Rate of Return (ERR) (%)	52	23	29	-80	39	N/A
Benefit/Cost (B/C) Ratio	1.28	1.17	1.18	0.66	1.11	0.75
Net Benefit-Investment (N/K) Ratio	6.24	2.62	3.22	0.08	4.15	0.00

Source: Financial and economic static and dynamic models, Appendix 7.1

Notes: N/A = not available, indicates cases where there are only negative values in the cash flow stream and therefore IRR cannot be calculated.

TABLE 7.4 SUMMARY OF FINANCIAL AND ECONOMIC CHARACTERISTICS FOR FOUR INFORMAL, NON-CRAFT ENTERPRISES (in pula, 1990 prices)

CHARACTERISTICS	BEER BREWING	GRASS/ REED	HUT BUILDING	VELD PRODUCTS
Financial Analysis				
Initial capital investment	125.60	3.52	6.60	30.58
At stability (full production)				
Annual gross income (sales)	1056.00	240.00	180.00	280.00
less Variable costs	263.00	175.00	0.00	0.00
Gross margin	793.00	65.00	180.00	280.00
less Fixed overhead costs	728.03	64.76	175.43	276.63
Annual net cash income	64.97	0.24	4.57	3.37
Typical skilled workers annual wage	700	64	174	270
Financial worth over five years				
Net Present Value (NPV) (@6%)	189.37	0.17	13.37	2.86
Financial Rate of Return (FRR) (%)	54	4	57	9
Benefit/Cost (B/C) Ratio	1.06	1.00	1.02	1.00
Net Benefit-Investment (N/K) Ratio	3.90	1.01	3.34	1.17
Financial worth over ten years				
Net Present Value (NPV) (@6%)	368.59	0.14	26.45	9.45
Financial Rate of Return (FRR) (%)	57	7	62	12
Benefit/Cost (B/C) Ratio	1.06	1.00	1.02	1.01
Net Benefit-Investment (N/K) Ratio	6.52	1.04	5.56	1.41
Economic Analysis				
Initial capital requirements	136.27	3.87	7.26	33.64
At stability (full production)				
Annual gross economic benefits	1056.00	240.00	180.00	308.00
less Economic costs	474.82	207.18	156.93	136.53
Gross Value Added	581.18	32.82	23.07	171.47
Net Value Added	556.89	32.18	21.86	165.86
Capital cost/ Employment opportunity created	136.27	3.87	7.27	33.64
Economic worth over five years				
Net Present Value (NPV) (@6%)	1816.45	105.63	70.36	540.33
Economic Rate of Return (ERR) (%)	361	465	192	293
Benefit/Cost (B/C) Ratio	2.06	1.15	1.13	2.11
Net Benefit-Investment (N/K) Ratio	27.37	31.71	11.95	19.11
Economic worth over ten years				
Net Present Value (NPV) (@6%)	3455.31	200.75	134.46	1029.11
Economic Rate of Return (ERR) (%)	361	466	193	294
Benefit/Cost (B/C) Ratio	2.07	1.15	1.13	2.13
Net Benefit-Investment (N/K) Ratio	51.10	59.32	21.87	35.44

Source: Financial and economic static and dynamic models, Appendix 7.1

TABLE 7.5 SUMMARY OF FINANCIAL AND ECONOMIC CHARACTERISTICS FOR SIX FORMAL, NON-CRAFT ENTERPRISES (in pula, 1990 prices)

CHARACTERISTICS	HUNT-ING	SEW-ING	BAKERY	BLOCK MAKING	METAL WORK	MILL-ING
Financial Analysis						
Initial capital investment	118878	27985	35260	44438	35471	62993
At stability (full production)						
Annual gross income (sales)	86617	38000	29700	138600	58520	38400
less Variable costs	11852	11100	5900	12279	6250	7370
Gross margin	74765	26900	23800	126322	52270	31030
less Fixed overhead costs	73614	28844	11563	27750	45970	17271
Annual net cash income	1151	-1944	12237	98751	6300	13759
Typical skilled workers annual wage	1520	2760	1680	1680	1920	1920
Financial worth over five years						
Net Present Value (NPV) (@6%)	2787	-20601	25616	308657	-3577	26071
Financial Rate of Return (FRR) (%)	7	-25	23	170	3	17
Benefit/Cost (B/C) Ratio	1.01	0.86	1.28	2.83	0.98	1.20
Net Benefit-Investment (N/K) Ratio	1.03	0.36	2.04	11.59	1.06	1.58
Financial worth over ten years						
Net Present Value (NPV) (@6%)	18017	-23710	56859	601966	18645	63657
Financial Rate of Return (FRR) (%)	9	-13	27	171	15	22
Benefit/Cost (B/C) Ratio	1.03	0.91	1.40	3.16	1.05	1.34
Net Benefit-Investment (N/K) Ratio	1.21	0.22	3.16	21.59	1.86	2.33
Economic Analysis						
Initial capital requirements	124477	29513	35794	45609	37065	65332
At stability (full production)						
Annual gross economic benefits	95279	41800	32670	152460	58520	38400
less Economic costs	38809	33440	14714	30511	41673	19005
Gross Value Added	56470	8360	17956	121949	16847	19395
Net Value Added	37320	5113	16230	116623	12112	15596
Capital cost/ Employment opportunity created	12448	4216	11931	4561	7413	21777
Economic worth over five years						
Net Present Value (NPV) (@6%)	80156	-689	39869	365724	11500	29715
Economic Rate of Return (ERR) (%)	25	5	32	191	16	18
Benefit/Cost (B/C) Ratio	1.28	1.00	1.45	3.31	1.06	1.23
Net Benefit-Investment (N/K) Ratio	1.97	1.09	2.42	12.83	1.54	1.63
Economic worth over ten years						
Net Present Value (NPV) (@6%)	177235	12389	82913	716128	44759	69901
Economic Rate of Return (ERR) (%)	29	14	36	192	26	23
Benefit/Cost (B/C) Ratio	1.39	1.05	1.61	3.84	1.14	1.38
Net Benefit-Investment (N/K) Ratio	3.07	1.62	3.90	24.11	2.75	2.39

Source: Financial and economic static and dynamic models, Appendix 7.1

TABLE 7.6 SUMMARY OF FINANCIAL AND ECONOMIC CHARACTERISTICS FOR CRAFT MARKETING ENTERPRISES (in pula, 1990 prices)

CHARACTERISTICS	NATIONAL CRAFT MARKETING ENTERPRISE
Financial Analysis	
Initial capital investment	451723
At stability (full production)	
Annual gross income (sales)	758000
less Variable costs	563100
Gross margin	194900
less Fixed overhead costs	249075
Annual net cash income	-54175
Financial worth over five years	
Net Present Value (NPV) (@6%)	-259484
Financial Rate of Return (FRR) (%)	-23.11
Benefit/Cost (B/C) Ratio	0.91
Net Benefit-Investment (N/K) Ratio	0.24
Financial worth over ten years	
Net Present Value (NPV) (@6%)	-358381
Financial Rate of Return (FRR) (%)	-17.13
Benefit/Cost (B/C) Ratio	0.93
Net Benefit-Investment (N/K) Ratio	0.08
Economic Analysis	
Initial capital requirements	482107
At stability (full production)	
Annual gross economic benefits	833800
less Economic costs	713423
Gross Value Added	120377
Net Value Added	71898
Capital cost/Formal employment opportunity created	34436
Capital cost/Informal employment opportunity created	241
Economic worth over five years	
Net Present Value (NPV) (@6%)	96952
Economic Rate of Return (ERR) (%)	15.71
Benefit/Cost (B/C) Ratio	1.03
Net Benefit-Investment (N/K) Ratio	1.57
Economic worth over ten years	
Net Present Value (NPV) (@6%)	279281
Economic Rate of Return (ERR) (%)	21.12
Benefit/Cost (B/C) Ratio	1.06
Net Benefit-Investment (N/K) Ratio	2.41

Source: Financial and economic static and dynamic models, Appendix 7.1

FIG. 7.1 NPV FOR INFORMAL CRAFT AND NON-CRAFT ENTERPRISES OVER TEN YEARS

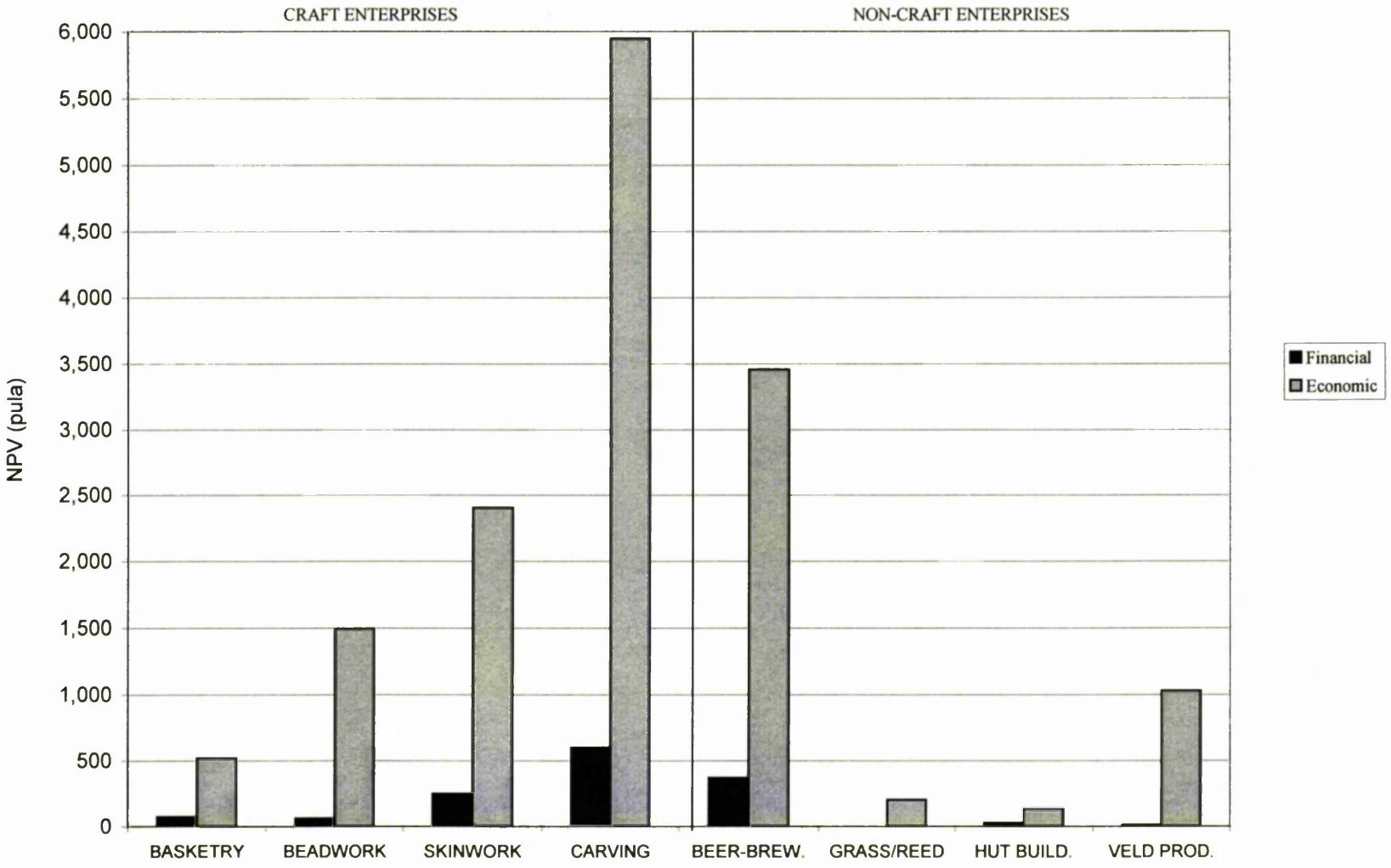


FIG. 7.2 NPV FOR FORMAL CRAFT AND NON-CRAFT ENTERPRISES OVER TEN YEARS

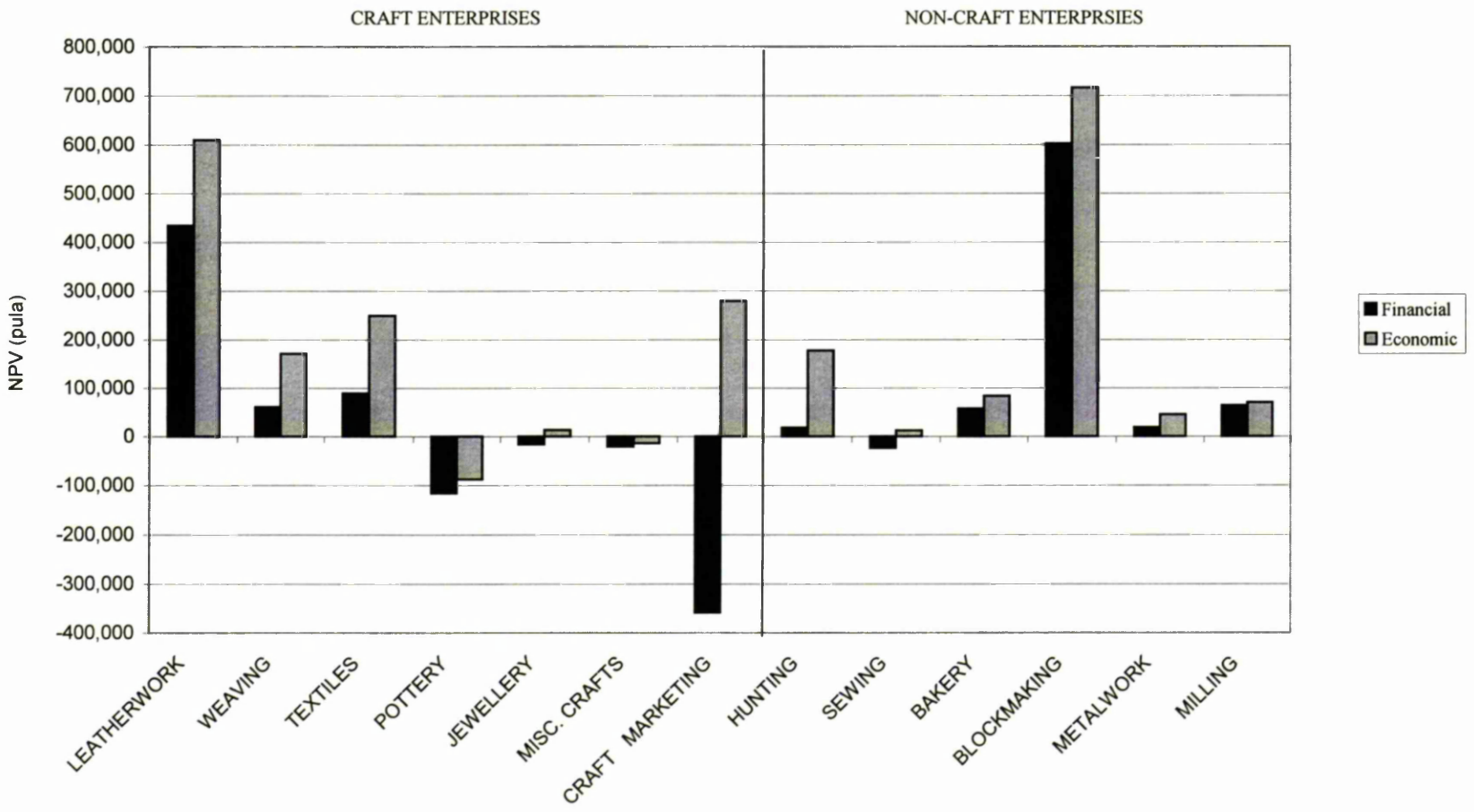
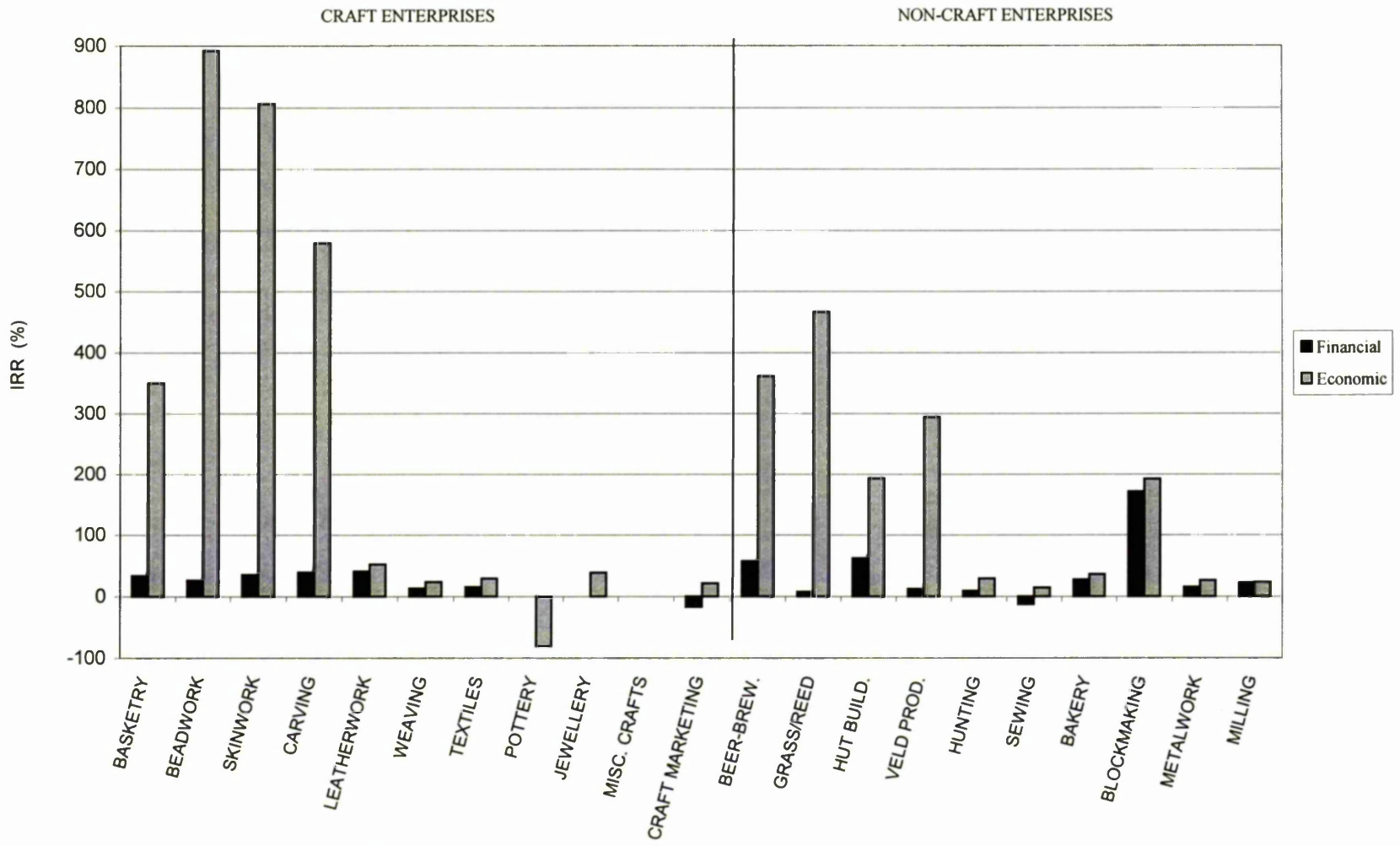


FIG. 7.3 INTERNAL RATE OF RETURN (IRR) FOR CRAFT AND NON-CRAFT ENTERPRISES OVER TEN YEARS



Note: no bar = measure not available (N/A)

FIG. 7.4 B/C RATIO FOR CRAFT AND NON-CRAFT ENTERPRISES OVER TEN YEARS

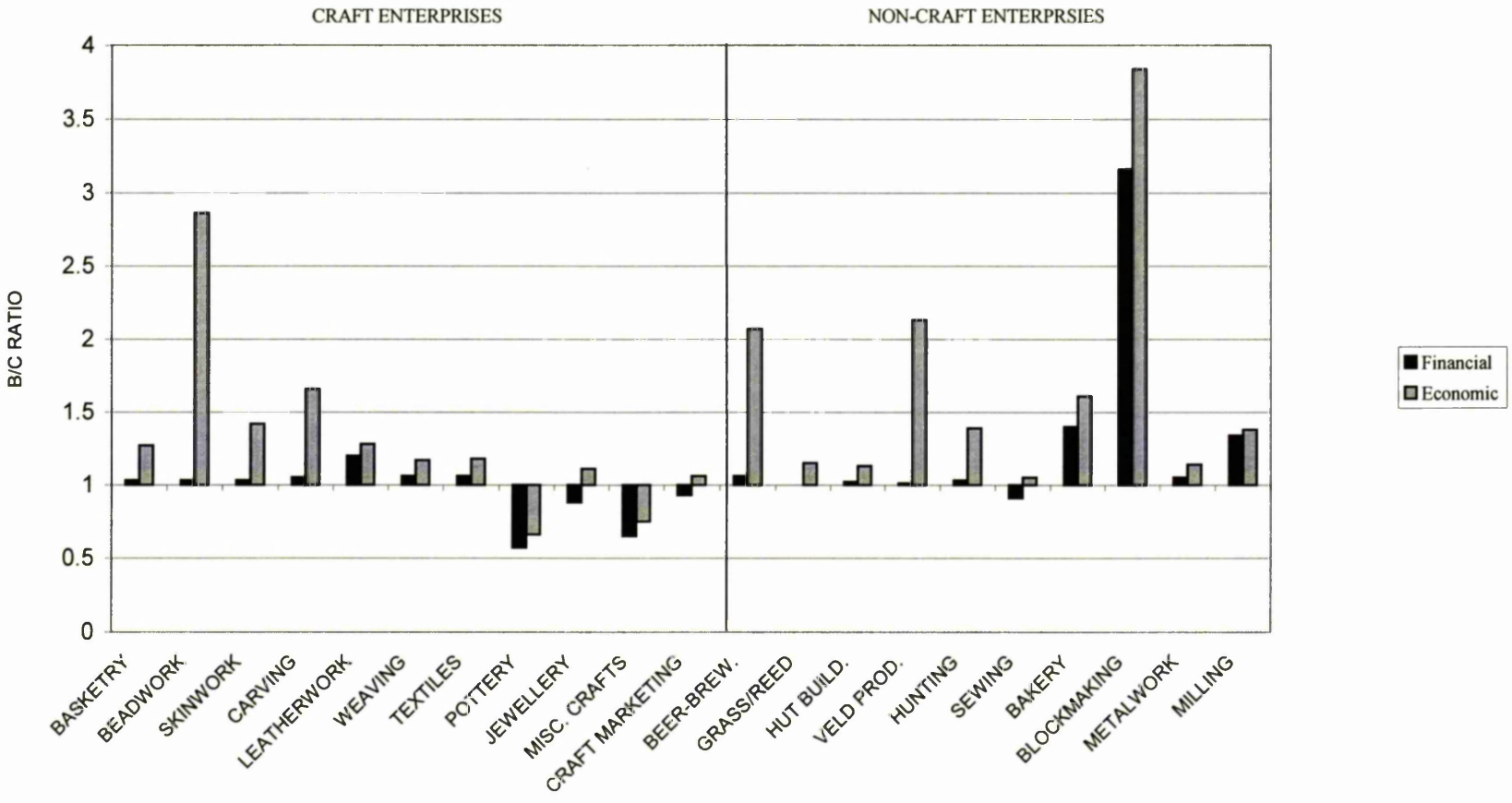
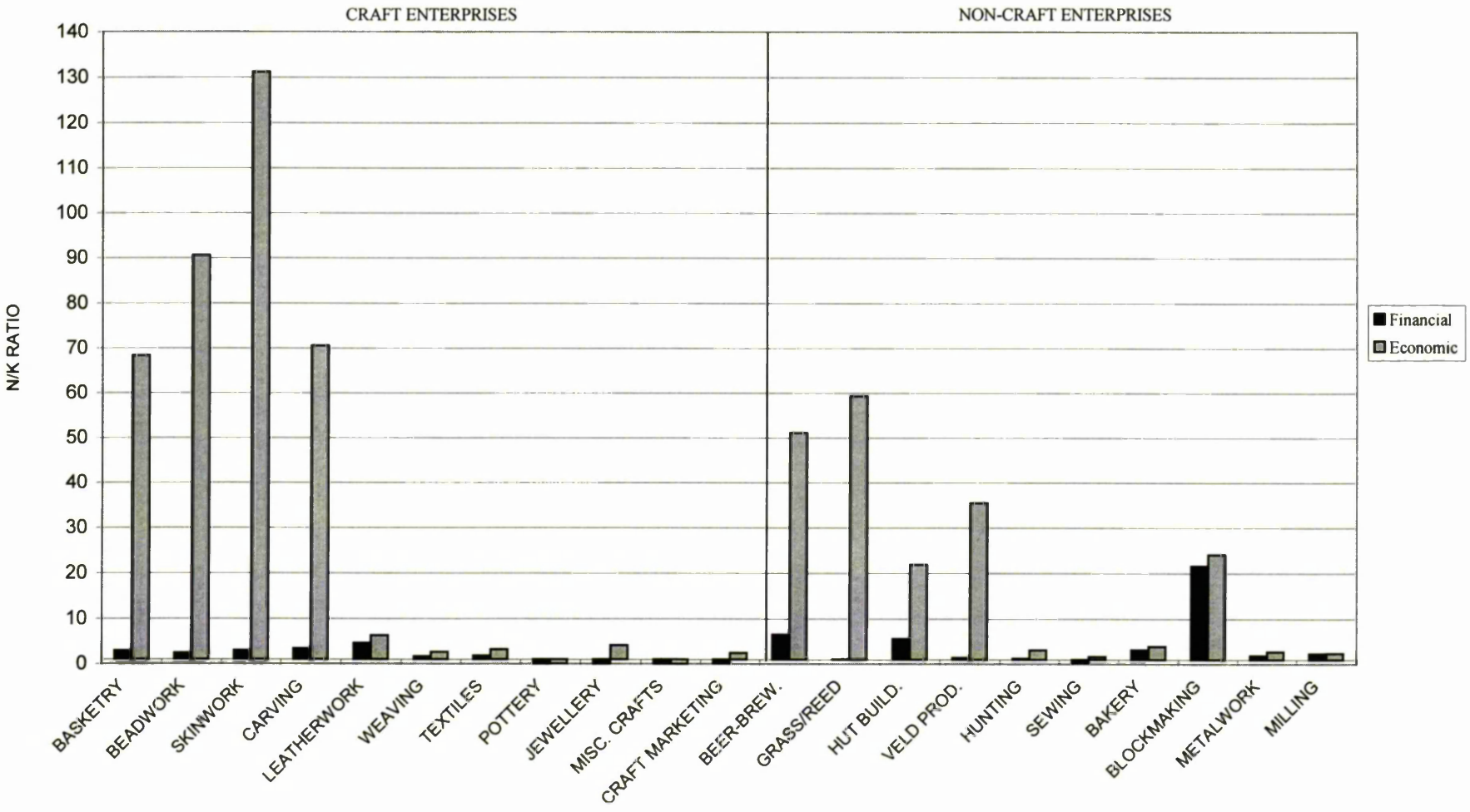


FIG. 7.5 NET-BENEFIT INVESTMENT RATIO FOR CRAFT AND NON-CRAFT ENTERPRISES OVER TEN YEARS



7.4.2 Financial Viability of Craft Enterprises

From the static financial models, seven of the craft production enterprises show a profit at stability (full production). The three enterprises showing losses are: pottery, jewellery and miscellaneous crafts. The dynamic models reinforce this finding.

In the dynamic models, the Net Present Value (NPV) figures represent the 'financial objective' (getting the most profit from what you put in), and are good indicators for comparing mutually exclusive alternatives that have similar investments and life spans. Thus, the informal enterprises can be compared with each other (Fig. 7.1), but comparisons cannot be made between the small, informal and large, formal enterprises. Leaving aside skills and cultural propensities, but not gender, a rural woman producer working as a lone entrepreneur would be better off choosing basketmaking over beadwork. A male rural producer would be better off choosing woodcarving over skinwork. The formal craft enterprises, with much larger investments and variable and fixed costs, are not characterised by a specific gender or cultural propensity. Of the three profit-making, formal, craft enterprise types, the right choice, based on financial NPV, would be a leather enterprise, followed by textiles and then weaving (Fig. 7.2).

The same conclusions are drawn from the Financial Rate of Return (FRR), which measures the maximum interest an enterprise could pay for the resources invested, and still recover the investment and operating expenses (Fig. 7.3). All the FRRs, which could be calculated, indicate financial viability as they are all more than six percent (the opportunity cost of capital, minus inflation, for Botswana). A private investor could consider investing in any of these profitable concerns, rather than depositing funds in a financial institution. FRRs could not be calculated for the three loss-making enterprises, because they did not make a profit in any year, and obviously do not make attractive investments.

In contrast to the NPV and FRR measures, the Benefit-Cost (B/C) Ratio allows for some comparison between the very small, informal enterprises and the larger, formal enterprises, because this measure represents a ratio between benefits and costs.

Sometimes the B/C Ratio can discriminate against an enterprise with high gross returns and high costs, but this situation does not exist here. The formal selection criteria for an enterprise using the B/C Ratio is that the ratio should be equal to one or greater than one (at the opportunity cost of capital). Again, pottery, jewellery and miscellaneous crafts are poor investments, because their B/C Ratios are below one (Fig. 7.4). All the others represent viable profitable projects, with the leather enterprise being the most profitable, followed by textiles and weaving.

The formal selection criterion for choosing enterprises with the Net Benefit-Investment Ratio (N/K Ratio) is the same as for the B/C Ratio. The N/K Ratios produce similar results by indicating the same three enterprises as loss-making (i.e. below one) (Fig. 7.5). The N/K Ratio, which allows for ranking of all projects, is especially useful in cases where it might be necessary to select only certain independent projects because of limited investment funds. The idea is to begin with the enterprise with the largest ratio and move towards the smallest until all available investment funds are exhausted. Here, the craft enterprises are ranked the same over five-year and ten-year life spans, as follows: leatherwork, carving, skinwork, basketry, beadwork, textiles and weaving (Table 7.7).

Concerning craft marketing, Model M1 as summarised in Table 7.6 and depicted in the bar charts (Figs. 7.2 to 7.5), suggests that a nation-wide craft purchasing and selling operation is not financially viable. Although P325,000 is distributed annually in cash to at least 500 producers, and possibly as many as 2,000, all financial indicators suggest that an operation of this type and scale does not make a sound investment. Substantial subsidies would have to be made by government, or aid organisations would have to provide financial support to keep the operation running. Alternatively, the activity of going out to remote rural areas to purchase crafts directly from the producers would have to be drastically curtailed to bring down transportation costs. While this change in operation might make the enterprise financially viable, it would greatly diminish the support structures provided to many rural people, and would probably also reduce the number of crafts made within the country.

In conclusion, this analysis has determined that seven out of ten typical craft enterprises are financially viable and make worthwhile investments for both the individual craftsperson and any interested investor. Presently, the three unprofitable production enterprises (pottery, jewellery and miscellaneous crafts) cannot be considered as sound investment choices. While they do manage to employ people at wages ranging from P840 to P3,000 per annum, they are not financially sustainable. Similarly, although the craft marketing enterprise model assumes the direct formal employment of 13 people, and the indirect, 'informal employment' of as many as 2,000 producers, the actual operation is not financially viable. Some sensitivity analyses to look at ways to redress these situations have been undertaken on the models, and their results along with specific policy implications are discussed in the last chapter.

7.4.3 Economic Viability of Craft Enterprises

Turning to economic viability, all of the economic measures show that the seven financially sound craft enterprises, plus the jewellery enterprise, are economically viable. The Economic Rates of Return (ERR) for the four informal activities show that very significant economic returns come from promoting these types of enterprises, because they contribute significantly to national income relative to resources used (Fig. 7.3). Of the four viable formal enterprises, leatherwork is the best economic investment, equal to its status as the most viable financial investment. Enterprises based on pottery and miscellaneous crafts are unsustainable from society's point of view.

Among the economically efficient enterprises, beadwork has by far the best economic B/C Ratio for both five and ten year life spans (Fig. 7.4). Carving follows, and then skinwork. Jewellery has the worst B/C Ratio among the eight enterprises, but this still does not mean that jewellery is not economically efficient, because the B/C Ratio is greater than one. As with other studies (Gupta 1984), these results suggest that there is a correlation between low initial investment and higher B/C Ratios.

Since the economic N/K Ratio can be used to compare enterprises with small and large investments, the enterprises showing an economic profit over a five-year life span can be

ranked as follows: skinwork, beadwork, carving, basketry, leatherwork, textiles, jewellery and weaving, Over a ten-year period the situation changes slightly with jewellery providing higher returns than textiles. In both time periods, the informal enterprises overall are far more attractive in terms of benefits over investment than the formal activities (Fig. 7.5).

When looking at the capital requirements (a scarce resource) per employment opportunity created, basketmaking at P8.66 is the lowest, followed by beadwork at P18.76. The extreme case is leatherwork, where a capital investment of more than P12,500 is needed for every job created.

In contrast to the financial analysis, all the economic measures summarised in Table 7.6 suggest that a nation-wide craft purchasing and selling operation is both economically desirable and efficient (see Section 7.4.6). This finding clearly suggests that a national craft marketing operation is worth supporting financially because it is a very attractive endeavour from society's point of view by providing a net welfare gain to Botswana.

In summary, this economic appraisal demonstrates that eight out of ten typical craft enterprises, and the craft marketing operation are economically efficient. When looking at all the economic measures available, enterprises involving skinwork, beadwork, carving and basketry are particularly attractive from society's point of view. The other four (leatherwork, textiles, weaving and jewellery) also contribute positively to the national income and are worth supporting in terms of the nation's interest. In contrast, unless the current situation can be adjusted, enterprises involving pottery and miscellaneous crafts poor investment choices, even from society's point of view.

7.4.4 Financial Viability of Non-craft Enterprises

As summarised in Tables 7.4 and 7.5, the static financial models indicate that all of the non-craft enterprises, except sewing show a profit at stability. The bar charts, representing the dynamic models, confirm this finding. Given the gender-based choices of beer-brewing, grass/reed collection, hut building and veld products gathering, if a lone

rural woman was told she could only pick one non-craft activity, beer-brewing would be her best choice based on NPV, B/C Ratio, and N/K Ratio (see Figs. 7.1, 7.4, and 7.5).[2] Her second-best choice would be hut building. Hut building work that is traditionally done by men would also be a wise choice for a man, unless of course the man wanted to break into the female-dominated activity of beer-brewing. The financial characteristics of the grass/reed collection and selling enterprise reveal that the lone entrepreneur can pay herself a wage of P64 per year and just manage to break even. This says that the enterprise is viable, but clearly not one of the most attractive choices. The entrepreneur would probably be better off gathering another type of veld product, such as grapple (Harpagophytum procumbens), which is a better investment.[3]

In comparison to the formal craft enterprises, some formal non-craft enterprises tend to be gender-specific. In Botswana, more women gravitate towards sewing and baking, while men tend to be involved in hunting, blockmaking, and metalwork. Both men and women are found working in, and owning, milling enterprises. Given this, a woman would realistically choose from three types of non-craft enterprises (sewing, baking and milling). Commonly, sewing enterprises never make a profit, and obviously would not be a good investment choice. While milling shows a slightly larger NPV than a bakery establishment (Fig. 7.2), the other three measures reveal that a woman would be best off running a bakery.

The man could choose between four different enterprises. All measures support the choice of blockmaking as the leading possibility, which suggests that women should consider entering this male-dominated industry. The second choice would be milling, and then hunting. Based on three measures, the metalwork enterprise is financially viable only after ten years. Therefore, if this was the skill area that the entrepreneur had, he

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[2] This choice does not take into consideration the number of beer-brewing enterprises in her area and the possibility of market saturation.

[3] As a hypothetical comparison, this analysis is ignoring the actual location and availability of the different veld products.

should be advised to remain in the work for at least ten years to obtain a good return on his investment.

From the point of view of an investor, the financial N/K Ratios allows for some comparisons among all ten non-craft enterprises. By ignoring the investor's ability to access capital and the local market potential, over ten years the enterprises can be ranked as follows: blockmaking, beer-brewing, hut building, bakery, milling, metalwork, veld products, hunting, grass collection and then sewing (Table 7.7).

7.4.5 Economic Viability of Non-craft Enterprises

The economic analysis concludes that all of the non-craft enterprises (except sewing) are economically efficient over a five-year period. Over ten years, all contribute positively to the overall welfare of society. Among the four micro-enterprises, the NPV measure shows that beer-brewing contributes the most to national income, while blockmaking is the most efficient among the six formal activities. As seen in Table 7.7, the N/K Ratio ranks grass/reed collection in top place among the non-craft enterprises, because of the tiny capital requirement needed to generate an income with this activity. Similarly, grass/reed collection creates a job at the lowest cost (P3.87). Because of all the equipment needed, beer-brewing is a more expensive proposition compared with the other one-person enterprises. Of all the enterprises, milling requires the largest capital expenditure (almost P22,000) per job created.

In conclusion, if government was looking at promoting various types of non-craft, small-scale enterprises, an economic appraisal such as this could provide some guidelines. While all are worthy of support because they all make a positive economic contribution to the nation's welfare, the general order of attractiveness is listed in Table 7.7.

7.4.6 Differences between Financial and Economic Performance

All the bar charts clearly show that the enterprises perform better when analysed from an economic point of view rather than a financial point of view. The economic analyses give the true value of the activities by correcting for market imperfections or policy.

Although detailed in Appendix 7.1, the main factors providing the corrections are summarised here: 1) gross income is generated through the sale of tradable items, which can generate foreign exchange, and are thus valued higher in the economic model, 2) due to unemployment, technically skilled and unskilled labour are valued at the opportunity cost of labour in the economic model, which is less than the financial cost, 3) the costs of staff training are assumed to be nil in economic terms because the financial cost to the enterprise results in a benefit to the nation through the general employment of trained citizens, and 4) licence fees and rent, as domestic transfers, are removed from the economic model. All these aspects effectively reduce costs or increase benefits.

Drawing attention to these differences between the financial and the economic models (especially for the craft marketing enterprise) emphasises the importance of conducting comprehensive economic analyses and not relying on financial aspects alone. Because the economic value represents the true value to society of the enterprise, where financial value deviates from the true value, there is a case for manipulating the financial value through policy.

7.4.7 Financial and Economic Viability of Craft versus Non-craft Enterprises

Crafts and non-crafts turn out to be quite comparable in relation to the amount of investment needed to create a job. The best two examples are non-craft ventures (grass/reed collection and hut building), but the two worst examples are also from the non-craft sector (milling and hunting). The craft activities fall in between these examples.

When looking at all twenty enterprises and without considering issues of market saturation or export opportunities, more non-craft enterprises (nine) are financially viable than craft enterprises (seven). All ten non-craft businesses are beneficial to society, whereas two of the craft production units are not economically efficient. However, when looking at only the viable enterprises, and with the exception of blockmaking, the financial measures (as depicted in Figures 7.1 to 7.5) suggest that the two sectors are quite comparable. More importantly, from the economic point of view, the craft sector

has certain activities with higher levels of efficiencies then the non-craft sector. These findings are confirmed, as shown in Table 7.7, when all twenty enterprises are ranked using the N/K Ratio.

These findings suggest that the non-craft sector offers a slight advantage over the craft sector in the eyes of an investor. However, because the true value of an enterprise is represented in the economic analysis, the findings conclude that the craft sector is more competitive than the non-craft sector. In cases where an enterprise is not financially profitable, but is economically sound, there is a good argument for subsidisation in order to increase the attractiveness to the individual investor.

TABLE 7.7 RANK ORDER OF THE TWENTY ENTERPRISES BASED ON N/K RATIOS FOR FINANCIAL VIABILITY AND ECONOMIC EFFICIENCY

FINANCIAL ANALYSIS			ECONOMIC ANALYSIS		
RANK ORDER	ENTERPRISE	FINANCIAL N/K RATIO	RANK ORDER	ENTERPRISE	ECONOMIC N/K RATIO
1	blockmaking	21.59	1	skinwork	131.16
2	beer-brewing	6.52	2	beadwork	90.59
3	hut building	5.56	3	carving	70.53
4	leatherwork	4.56	4	basketry	68.34
5	carving	3.36	5	grass/reed collection	59.32
6	bakery	3.16	6	beer-brewing	51.10
7	skinwork	2.96	7	veld products	35.44
8	basketry	2.88	8	blockmaking	24.11
9	beadwork	2.39	9	hut building	21.87
10	milling	2.33	10	leatherwork	6.24
11	metalwork	1.86	11	jewellery	4.15
12	textiles	1.82	12	bakery	3.90
13	weaving	1.64	13	textiles	3.22
14	veld products	1.41	14	hunting	3.07
15	hunting	1.21	15	metalwork	2.75
16	grass/reed collection	1.04	16	weaving	2.62
17	sewing	.22	17	milling	2.39
18	pottery	.00	18	sewing	1.62
19	jewellery	.00	19	pottery	.08
20	misc. crafts	.00	20	misc. crafts	.00

Notes: Any N/K Ratio over 1.00 indicates a profitable or efficient enterprise. The shaded areas represent craft enterprises. The diagonally striped areas represent unprofitable or inefficient enterprises.

8. THE HANDICRAFT SECTOR'S CONTRIBUTION TO INDIVIDUAL, HOUSEHOLD AND COMMUNITY WELFARE

8.1 INTRODUCTION

Although a good portion of the limited literature on handicrafts recognises its important contribution to the people of developing countries (e.g. Allal and Chuta 1982; Kathuria *et al* 1988; Kennedy 1988; Pye 1988; Melgin 1990; Haffajee 1994), little has been recorded about Botswana. This chapter concentrates on the industry's contribution to individual, household and community welfare by interpreting the information obtained from the individual producers' and production unit surveys and the ten handicraft financial cost-benefit models, and by noting where the Botswana results support or refute points from the literature. Specifically, this chapter focusses on the first objective of this thesis:

1) To determine the actual financial, social and cultural impact of the handicraft industry on craft producers, their households and their communities.

The financial aspect mainly analyses the extent of income generated through handicraft production. The importance of this income and the profitability of individual craft enterprises are also assessed. Moving from the financial impact to the social and cultural impact, the results of the surveys are interpreted for individual and household social status, urban migration and family stability, community status and development, and cultural identity.

Geographical variations in the impact of the craft industry are also covered by addressing the third objective of the thesis through the testing of the following hypotheses:

3a) Financial, social and cultural benefits are greater for individual producers and production units in rural areas than in urban areas.

3b) Financial, social and cultural benefits are greater for individual producers located in areas frequented by craft-buying organisations and/or tourists as compared with areas not frequented by these buyers.

8.2 FINANCIAL IMPACT

Based on the research conducted for this thesis, the handicraft industry in Botswana, without a doubt, is financially beneficial to craft producers, their families and their communities. However, the extent of benefit varies considerably depending on the type and the location of the producer, and their access to a decent market. This varying impact found in Botswana is similar to findings in other developing countries (Hughes 1981; Cunningham 1987; Kathuria *et al* 1988; NHC 1990).

Contrary to some opinions (Karsten 1972; Dhamija 1981; Carr 1984; Pye 1988), the findings from Botswana show that the work of handicraft production is not inconsequential. The fact that 89 percent of formal producers and 80 percent of informal producers work year-round, and about 75 percent of producers work full-time[1] proves that craft production acts as a full-time occupation for many. As in many Asian countries (Kathuria *et al* 1988), craftwork in Botswana provides much more than a mere supplement to agricultural incomes in rural areas.

The producers' survey determined that the majority of craft producers' households are highly dependent on the producer for their basic needs. For the 54 percent of producers who said they are the only household member earning a cash income, the importance of craftwork to their household is indisputable. Without this opportunity to earn money through crafts, these households would have great difficulty purchasing even their basic necessities. In the other surveyed households that had additional members working, the majority had only one other family member earning cash. Among these workers, 36 percent were also craft producers, further indicating household dependence on handicrafts. By examining all sources of income (i.e. formal, informal and craft income) for craft producers' households, income from crafts (mean = P712) makes up, on average, about one-third of total household income (mean = P2,057).

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[1] Full-time means at least five days per week, for seven or more hours per day, but not necessarily throughout the year.

As noted in Chapter 6, the average earnings for craft producers' households are just under half of the national average household income of P4,241. However the average craftworker's income is close (84 percent of) to the national average income per capita of P845.[2] This situation suggests that craft producers' family members have limited opportunities to earn cash income and emphasises again the importance of the income earned by the producers. This conclusion corresponds with results from Asian countries, where craftworkers' households might be at the bottom of the socio-economic ladder, but the producers' incomes are crucial for the households' livelihoods (Miralao 1988; Pye 1988). The entire picture changes dramatically when only rural household incomes are examined. The average rural craft producer's household income, at P1,756, is significantly higher than the national average rural household income of P1,031 (Bank of Botswana 1987:28).[3]

Turning from average income figures for craft producers to specific types of producers, in seven out of ten craft categories (Table 6.18) producers are earning higher incomes than the national average. Although these are extreme cases, a few informal, self-employed producers earned as much as P12,000 in 1990 from craft production, while one craftworker/manager of a production unit earned almost P22,000.

All these findings highlight the handicraft sector's significant earning power and belie the common notion that craft producers, in general, are exploited (Dhamija 1981; Loughran and Argo 1986; Taimni 1987; Miralao 1988). The findings also reinforce other studies in Botswana (Lewycky 1977; Terry 1988e, 1991b; Mbere and Matsvai 1993), in Ghana (Browne 1978) and in Asia (Kathuria *et al* 1988; Pye 1988), which discovered that craft earnings were, at the very least, comparable to those in other informal sector activities, and often greater than average incomes. Although it can be easily acknowledged that most developing countries' income per capita averages are low (ODI 1989), and that

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[2] Figures from the 1985/86 HIES survey (CSO 1988b:5) have been inflated to 1990 prices. Household figures have been divided by the national average number of household members (4.98) to calculate per capita income figures.

[3] The Bank of Botswana figures for rural areas in 1985 have been inflated to 1990 terms.

producers should earn more for their creative skills, this thesis puts the possibility of exploitation, as described in Chapter 2, into perspective.

However, the cry of exploitation seems valid when it comes to female producers in Botswana and other countries (Joseph 1988; Miralao 1988; Bogatsu 1994). Table 6.18 reveals that women are earning, on average, half as much as their male counterparts. The lowest earning traditional craft activities (i.e. basketry and beadwork) are dominated by women. On average, male woodcarvers earn seven times more than female basketmakers. Dhamija (1981) and Pye (1988) describe similar situations for Asia. However, in some countries women are starting to move into the higher paying craft areas normally considered the domain of men (Benjamin 1981a; Kathuria *et al* 1988). While discarding gender-typing in the traditional craft sector in Botswana (as has generally been done in the contemporary craft sector) may seem ideal, benefits to many women might not automatically occur. Men and women could work equally in carving and both could earn the same relatively high wages. However, opportunities (for men or women) in the carving craft category are quite limited compared with basketry, due to stiff competition from neighbouring countries and problems with raw materials. The position of craftswomen in Botswana may have a better chance of being improved through a strong market awareness campaign describing the time and skills needed to produce fine basketry and beadwork products. Then, much like the market for American Indian baskets, producers' status could be raised to the level of artists and higher prices could be demanded (Whiteford 1988; Mowat *et al* 1992).

The surveyed craft producers' opinions also support the income data from the survey. The majority felt that they were the most important income earners in their households, and craft earnings were either "very important" or "important" for their households' well-beings.[4] Almost all producers mentioned that craft earnings paid for basic family necessities. Over half the respondents said they would not be making crafts if they were

[4] As mentioned in Chapter 6, these summary statements are portrayed through specific quotations by individual producers (see Appendix 6.1).

not selling, further suggesting that the primary benefit of craft production is monetary.

For the 16 percent of respondents who felt that craftwork was "not very important" or "not important", most felt that crafts simply did not provide enough income for their families. They expressed hope that the market would expand or products would be bought at higher prices. No one stated that they wanted to stop working in the handicraft sector, rather only wishing that they could earn more money. These opinions re-emphasise the need for supporting the sector so that producers can profit as much as possible. For example, if the high transport costs of NGO marketing organisations could be partially subsidised, more profits from sales could be returned to the producers rather than being needed in the organisational coffers to cover operating expenses.

As ascertained in other studies (Browne 1978; Peterson 1984; Cunningham 1987; Melchers and Muller-Maige 1990; Haffajee 1994) and from the data collected in Botswana, the primary financial and social benefit stemming from the handicraft sector is its ability to absorb the otherwise unemployable. Predictably, low education levels limit opportunities for employment. Among Botswana craftworkers, 59 percent have no education at all and only five percent have more than primary education. Nevertheless, these 'uneducated' people earn an income for themselves and their families because of their skills and opportunities in the craft sector. Conclusively, the inherent labour-intensive nature of craft production plays a significant role in creating productive employment opportunities (ILO 1976; Ganslmayr 1985; Liedholm and Mead 1988; Mason 1991) and enhancing more equitable income distribution especially in remote areas (Pye 1988; Rietveld 1988; Stearns 1988).

The surveyed producers clearly recognised these positive attributes. Two-thirds felt that they would never have to leave their home area to search for work because they were earning enough through crafts. Over half thought they would be unable to find any other work in or near their village if they could not make crafts, because they lacked education and other marketable skills. For the 40 percent that thought they could find work besides craftwork, most of the possibilities would be low paying because of their lack of

education and other skills. These findings confirm evidence in an earlier study in Botswana (Lewycky 1977:221), where weavers at *Lentswe la Oodi* said they would return to unemployment or low-paying, menial labour, if the weaving workshop was to close.

By revisiting the results of the financial cost-benefit models in Chapter 7, conclusions can be made about the profitability of craft ventures, therefore adding to the findings about the impact on individuals working in the sector. Three of the models (basketry, beadwork and skinwork) describe enterprises operating with a single entrepreneur (i.e. the individual producer working on their own), while the carving model depicts the carver, plus an assistant. In these four models, the entrepreneurs take home a 'wage' for their labour, make a profit that can be put back into the business, and record a handsome return on their investment. Consequently, informal craft ventures have a positive financial impact on individual entrepreneurs.

The other six models represent formal craft businesses, which employ between three and 21 people who are mostly skilled craft producers, along with some managers and unskilled labour, such as cleaners. All employees receive a wage for their work. All of the producers' wages are above the highest minimum wage category for Botswana (P1,932 per annum in 1990), and some are well above this minimum. For the individuals who own the businesses,[5] three (leather, textiles and weaving) make a profit. These results confirm that individuals working in the industry and individual investors all benefit. The three enterprise categories that make a loss could be turned around through the readjustment of some aspect of the business, and possible strategies for this will be discussed in Chapter 11.

[5] In reality, only about half of the production units are owned by private individuals, while the other half operate as NGOs or cooperatives.

8.3 SOCIAL AND CULTURAL IMPACT

8.3.1 On Individuals and Households

Contrary to the belief that most craft producers suffer in their work (Dhamija 1981:1), the majority of Botswana's producers stated that they were happy making crafts, which implies a beneficial social situation and a positive effect on the producers' well-being. Specific findings from the producers' survey revealed that the lives of producers and their families have improved. Craftwork makes producers self-reliant, and the flexible nature of informal craftwork allows producers to work when they want. This information from Botswana supports the idea that producers and their families are empowered through the positive benefits coming from handicrafts (Cohen 1993a). Employment through crafts helps to obliterate the sense of frustration and lack of human dignity that comes with unemployment (Stewart and Streeten 1971; Thorbecke 1973; Chambers 1988a; Tsie 1996). Furthermore, from this study and others (Mushonga 1977; Kuru 1993; Haffajee 1994), the creative process of craftmaking has built confidence, self-awareness and a sense of identity.

As found in other countries (Hitchcock 1986; Mead *et al* 1990; Melgin 1990; NHC 1990), craftwork in Botswana is quite important for marginalised people, such as 'the poorest of the poor', tribal minorities, refugees, disabled, women overall and women heading their own households. Many of Botswana's poorest people and so-called minority tribes are living in areas with no (or low) agricultural potential, lack of any meaningful community development, and limited opportunities to earn a living. All these factors result in substandard living conditions compared with the majority Tswana (GOB 1990d; Kuru 1993; Mbere and Matsvai 1993). Besides being economically marginalised, these individuals are also socially and politically isolated, leading to a lack of self-awareness and self-confidence. Without income-generating projects such as craft production, these marginalised people would have to rely on government handouts for survival. Such a situation can destroy all aspects of human dignity (Fowkes 1985; Kuru 1993; Mbere and Matsvai 1993). Several respondents in the survey, only half jokingly, said they would have had to turn to crime if they had not been able to earn money from crafts.

From this study, personal observations and other reports (Bedsted and de Noord1988; Terry 1988d, 1991b; Kuru 1993; Mbere and Matsvai 1993), craftmakers are respected because of their work. For example, one of the few areas in which the Mbukushu and Yei are respectably acknowledged by members of the majority tribe is in the recognition of their fine basketry skills. In another case, an economic and cultural programme for the Bushmen notes that their craft project enhances the cultural self-esteem of the people, because others learn to appreciate their cultural traditions (Kuru 1993). Another significant social achievement of the handicraft sector is its capacity to introduce minority tribal producers and their families to a cash economy, which helps them adapt to 'modern' structures (Mbere and Matsvai 1993; Kuru 1995:14). Negative aspects of this introduction sometimes do occur, including increased use of alcohol and drugs, and significant pressure on the cash-earner by extended family members to share their earnings (Kuru 1995:14).

In at least two situations in Botswana, crafts have provided an income for refugees when no other income opportunities were available. The village of Etsha, now renowned for its baskets, started as a resettlement camp for Mbukushu refugees from Angola. Craft production was the only income-generating possibility open to them at first because, as aid-supported refugees, they were not eligible for formal employment. Selling crops was not an option during the first year when they were clearing their farmland, nor during the second year when all crops failed because of severe drought (Potten 1976; Terry 1984a, 1984b). During most of the 1980s, Zimbabwean refugees, along with some from South Africa and Namibia, lived at Dukwe refugee camp between Francistown and Nata, and many of them supported themselves by selling crafts to passing tourists (Fowkes 1985).

Similarly, all of the disabled people interviewed during this study mentioned that craftwork was their only opportunity for work. One family in Ngamiland District with three lame members provides a clear example. They explained in detail how basketmaking allowed them to be independent and self-reliant, and gave them a certain status in the community because they were all master weavers. The mother clearly stated that she could not do any other work because of her lameness, but because she could

weave beautiful baskets she did not need to depend on her children for income. Her adult daughter said that, "basketmaking allows me to use my own talents and supplies everything to my family – school fees, uniforms, food, clothing – just everything." The adult son noted that his basketmaking, and wages from being a basketry teacher, helped him to open a small shop next to his house, thus increasing his earnings. One disabled woman at a training centre in Maun felt that, "the centre gives me inspiration," and she "would just have to stay at home doing nothing" without this opportunity to earn an income from crafts. Another disabled woman mentioned that the income from crafts allowed her to contribute to her household, rather than being a burden on them.

The fact that three-quarters of the female producers do not have to hand over craft money to their husbands or fathers reinforces results from other studies, which note that control over cash earnings creates independence (Upadhyay 1973; Loughran and Argo 1986; Cunningham 1987; Haffajee 1994). Seidman (1990:58) specifically notes that this economic independence allows women the freedom of choosing whom they want to live with and, if they are being badly treated by their husbands or partners, the freedom of leaving. Considering that women have limited opportunities in the formal sector in Botswana (van Brink 1989:2; Alexander 1991:46), the sheer number of women able to find work in craft production is an obvious positive benefit. Over half the female respondents said they were the only family member who earned money, and 68 percent considered themselves the most important earner in the household. These findings verify that female producers, including the 40 percent in this study who head their own households, can support their families because of crafts. These results reinforce another study where the female heads of households working at the Oodi weaving factory were "released from possible suffering and insecurity", and were no longer part of "the most economically depressed group within Botswana" (Lewycky 1977:221).

Beyond financial independence, some women expressed the opinion that craftwork had helped them to be more confident and to achieve an elevated status within their families and communities. This impression supports earlier studies that participation in craft activities can help women to develop themselves personally and to feel more actively

involved in community life (Lewycky 1977; Harper 1984; Fundanga 1985; Stearns 1988; ZWICCT 1993; Gianturco and Tuttle 1997). For example, Lewycky (1977:215) noted that the women who sat on the Oodi Weavers' Management Committee tended to be "elevated to a position of importance" in their society, and the expanded skills, knowledge and abilities gained from the craftwork prepared them to contribute to their country. These women also said that their opinions were worth more in their homes because of their ability to earn a living.

8.3.2 On Migration and Family Stability

A significant body of literature exists on the impact of economic opportunities on rural to urban migration (e.g. Mayer and Mayer 1971; Chuta and Sethuraman 1984; Harper 1984; Simon 1984; Lindsay 1985), and Botswana government policy stresses the need to support rural industrial diversification to stem urban drift (GOB 1976, 1984). This study supports the literature by providing further evidence that craft production helps to reduce the need to move from rural areas to urban areas in search of jobs (Lewycky 1977; Mushonga 1977; Ndjonkou 1986; Joseph 1988; Rietveld 1988; Melchers and Muller-Maige 1990). Because of the opportunity to earn a living from handicrafts, two-thirds of the producers interviewed during this research felt that they would not have to leave their home village to find work. This suggests that craftwork reduces rural to urban migration and promotes family cohesion and stability.

About 40 respondents noted the many family responsibilities they have, and expressed their happiness that the flexible nature of craft production and the earnings from crafts allowed them to remain at home and take care of these responsibilities. This opinion echoes a similar finding in an earlier study in Botswana (Lewycky 1977), where weaving factory employees were happy to be working near their families, and old people said that employment in the handicraft sector allowed their adult children to remain in the village close to them, thus strengthening the extended family rather than destroying it.

Of all 341 respondents, only 15 percent had moved from the rural area where they were born to an urban location, and with their creative skills, they all found work in formal

craft production units. As suggested by the study and the literature, this not only kept them out of poverty (Kathuria *et al* 1988), but also gave them an opportunity to earn higher wages than unskilled labourers (Browne 1978; World Bank 1978; Falconer 1991). This finding also suggests that producers have supported their families in town or sent remittances home to the rural areas, further enhancing family stability.

8.3.3 On Community Status and Development

Without a doubt, community status and development have been enhanced in those Botswana communities that have significant craft activities. Over three-quarters of the individual producers, and all but one production unit felt that the craft sector has made a positive, important contribution to the development of their communities. Respondents' specific examples cited in Chapter 6, Section 6.2.9 and elaborated on in Appendix 6.1, Box 6.2 reinforce other researchers' findings within and outside Botswana (Lewycky 1977; Browne 1978; Gumbo 1990; Lee 1991; le Roux 1993).

From this study and others (Cunningham 1987; Miralao 1988; le Roux 1993; Haffajee 1994), the handicraft sector's main contribution to the development of any given village or town is its capacity to generate employment opportunities for community members and provide extra income used for developing the communities. Lewycky (1977:217) noted this for the village of Oodi when he said, "without the weaving factory, certain positive changes might not have come about in the village." As in the early days of Oodi, during this thesis research, several of the craft production units were found to be the largest employers in the village or town, and the sector was acknowledged for creating extended benefits through the income multiplier effect.

For the much smaller portion of respondents who felt that crafts did not contribute to community status or development, their primary reason was that craftwork just did not generate enough earnings to add to development. Again, this type of conclusion should be considered when developing policy. Greater craft earnings could help to increase the sector's contribution to community development. If the craft sector was supported like

the agricultural sector, more profit could remain in the hands of producers and their communities, making sound contributions to community development more likely.

Regarding relations within the community, as noted in Chapter 6, Section 6.2.9, half the respondents believe that community members view craft producers in a positive light. One interesting aspect of community relations, which was uncovered during this research work, was jealousy. Fifteen respondents mentioned that they thought others were jealous of them because of their earnings from crafts. Two respondents stated that craft activities caused jealousies and conflicts within their communities. Although not mentioned specifically during this research and found in only one other study for Botswana (Lewycky 1977:222), at least three incidences of witchcraft occurred during the four years the author worked in the basketmaking villages of Ngamiland, because people were jealous of craft producers' and trainers' increased earnings or raised status. Furthermore, producers in Chobe District were reluctant to form groups apparently because of jealousies and witchcraft (Terry 1988c).

8.3.4 On Cultural Identity

Craftmaking in Botswana, especially the traditional crafts, conclusively go hand-in-hand with the cultural identity of individuals, communities and ethnic groups. The fact that over three-quarters of the respondents felt that the crafts they made were a part of their own cultural identity, verifies the importance of craft objects as a material representation of culture (Nkunika 1979; Weiner and Schneider 1989; Campbell and Gron 1993). The survey results described in Chapter 6, Section 6.2.9 reinforce the idea that crafts can help to preserve and strengthen cultural traditions (Clason 1990; Mukayiranga 1990; The Crafts Center 1998b).

Some felt that certain products, no longer used traditionally, would not exist if they could not be marketed overseas as a cultural commodity. Specific comments (see Appendix 6.1) reinforce the point that many forms of cultural expressions would be lost if there were no monetary reward for the work (Parnwell 1992; Cohen 1993a). No evidence was found in this study that the selling of material culture was destroying the cultures of

Rather, trade in handicrafts clearly strengthens local cultural traditions for the individual and the tribe. To market traditional crafts, detailed information on specific items is obtained from producers and incorporated into marketing brochures and booklets (Serowe Woodcarvers undated; Gantsi Craft 1987; Terry 1988b). These marketing pieces spread cultural information, while the process of obtaining the information develops cultural self-examination and awareness. Furthermore, western countries buying crafts place a high value on fine products that are made by hand and retain their intrinsic cultural value (Ho and Huddle 1976). Knowing this, local marketing organisations encourage fine handiwork, and pay high prices for the best quality. Thus, monetary reward elicits cultural awareness and expression.

The belief that contact with other cultures could dominate or destroy a culture (Erisman 1983) was only mentioned by four respondents in this study. Most felt that cultural interaction through the craft sector created a positive cross-cultural exchange, which builds bridges between people of different cultural backgrounds (Kuru 1993, 1997b; Hopwood 1994; Bauman 1997). Others noted that contemporary craft products introduced by Europeans contain images of Botswana culture and are used to decorate the homes of the Batswana. These new media provide another avenue for expressing both traditional ideas and new ideas, therefore influencing cultural identity, but not destroying it. This study supports Seidman's (1990:56) belief that change and growth are as important to culture as continuity, and individuals need to develop their culture to explain new conditions and situations. Cultural activities, such as craftwork, help people in the unending process of understanding and dealing with the world around them.

8.4 COMPARISON OF RURAL AND URBAN PRODUCERS

8.4.1 Differences in Financial Benefits

Although the survey results are mixed depending on the specific aspect examined, overall the evidence supports the hypothesis that financial benefits are greater for rural producers and their households than for those in urban areas. As evidenced from this research and from the literature (Chuta and Sethuraman 1984; Ganslmayr 1985; Kathuria *et al* 1988),

in a rural situation, handicraft production is a critical livelihood strategy for many households. The sheer number of rural craft producers compared with urban ones supports this premise. Because there are so many uneducated rural producers in comparison to urban producers, craftwork opportunities are clearly crucial for the rural producers. In some rural villages the formal craft production unit is often the largest employer. The survey results confirm findings from Nelson (1975), Pye (1988) and Parnwell (1992) regarding the handicraft sector's ability to provide income-earning opportunities to people in very remote areas, often where agricultural productivity is low and no other income-generating activities are available. The results also confirm commonly-made assertions that craftwork in rural areas is especially beneficial because it provides employment during slack periods in the agricultural cycle and during drought years (Taussig 1980; Allal and Chuta 1982; Jones 1987; Hasberg 1988; Hoddy 1989).

The hypothesis for this thesis cannot be supported regarding actual income earned from craft production. Average annual income from crafts is far lower for rural producers (P556) than urban producers (P2,400). Presumably this is due to the more part-time nature of production work for some rural producers compared with urban producers.[6] In addition, most urban producers work in formal production units, which adhere to minimum wage laws, and this increases urban earnings. Another likely reason for lower rural craft incomes is the sheer number of baskets that are made in rural areas and bought at relatively low prices. Rural craft employees in formal businesses earn, on average, about 20 percent less than those employed in formal enterprises in urban areas (i.e. P2,372 per annum in rural areas compared with P2,871 in urban areas).

When examining the proportion of craft income to total household income for each producer's household, on average, craft income for rural households makes up 51 percent of total household income as compared with 58 percent in urban areas. These findings are contrary to the thesis hypothesis, which expected crafts to account for a larger share

[6] Sixty-eight percent of rural producers and 93 percent of urban producers work at least five days per week which is significant at the .05 level ($p = .0000$; Chi-square = 34.89, d.f. 6; cc =.36); 67 percent of rural producers and all urban producers work at least seven hours per working day ($p = .0000$; Chi-square = 31.45, d.f. 4; cc = .29)

of rural household income. The figures, however, do not necessarily indicate that the craft income is 'more important' to urban households than to rural households. Of the rural producers, 58 percent felt that craft production was the 'most important' method of earning income for their households, while fewer urban producers (42 percent) had this same opinion. Furthermore, because the rural households have a much smaller total income than the urban households, any money coming in must be very important. In contrast, the urban households have more of a 'safety net' available to them because of the higher income overall. This conclusion is also supported by the household expenditure figures, and producers' views. Expenditure (Table 6.21) in relation to income (Table 6.18) show that rural producers' households spend most of their income (i.e. an average of 83 percent for basketry, beadwork, skinwork, carving). In contrast, only about 60 percent of household income is spent by the urban craft types.

When producers were asked, "If the money you earned from craft production was to double, how would you use that additional money?" (Table 6.22), responses from rural and urban producers differed considerably. Over one-third of the rural producers stated they would spend the money on basics like food, clothes and household items, in comparison to only 12 percent of the urban dwellers. Only eight percent of the rural producers felt they could put the extra money in the bank, as opposed to 28 percent of the urban producers. Similarly, only seven percent of the rural respondents thought they could use the money to develop their house/living area, while 28 percent of urban dwellers wanted to do this. Clearly, craft earnings are useful in both rural and urban households, but the rural families are much more dependent on their craft income for their basic necessities.

Regarding private profitability in rural versus urban areas, rural enterprises are more profitable overall, relative to resources used than typical urban enterprises. To come to this conclusion, it is assumed that the basketry, beadwork, skinwork and carving enterprises all fall in rural areas. In urban areas, formal enterprises are found, including

leatherwork, textiles, pottery and jewellery.[7] The FRR measurements over a ten-year period for rural enterprises are: carving (39 percent), skinwork (35 percent), basketry (33 percent) and beadwork (26 percent). Urban FRRs are: leatherwork (40 percent), textiles (15 percent) and weaving (13 percent). The other three urban businesses of pottery, jewellery and miscellaneous crafts all report negative financial returns on investment, with pottery in the worst state. Excluding leatherwork businesses, all the 'urban' enterprises show a lower FRR than the rural ones.

Nine aspects have been examined related to the financial impact of the craft sector on individual producers, their households and the enterprises. Except for two aspects (annual income per producer and percentage of craft income to total household income), the hypothesis that benefits are greater in rural than in urban areas seems correct.

8.4.2 Differences in Social and Cultural Benefits

Social and cultural aspects have also been examined to determine if benefits are greater for individual rural producers and their households than for urban producers. There is no statistical difference between the proportions of rural and urban producers who claim to be 'happy' making crafts. For both types, about three-quarters said they were happy with the craftwork they do, mainly because it provides a living and an opportunity to use their skills, and they enjoyed the work. Another level of 'contentment' varied between rural and urban producers. Half the rural producers said they would continue to make crafts even if they could not sell them, while only 29 percent of urban producers would bother if no money was coming in from the effort.[8] Clearly urban producers see crafts primarily as income-earners, while many rural producers value crafts as useful, cultural objects.

Rural and urban producers' opinions on community members' perceptions of crafts and craft producers were similar. Two-thirds of the rural producers felt that others had a

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[7] This is not to say that none of these formal enterprises are found in rural areas, but some distinction has to be made to be able to use the financial measures derived from the theoretical financial cost-benefit models.

[8] Significant at .05 level, p = .0000 (Chi-square = 44.34, d.f. 3), cc = .35.

positive attitude towards the craft sector, compared with three-quarters of the urban producers. Interestingly, several rural producers felt that others were jealous of them because they were making money from crafts, while no urban producer felt this. This difference probably occurs because more urban dwellers are working and therefore have no need to be jealous of other urbanites making money from crafts.

While the ability of crafts to employ many people provides a financial benefit for individuals, social benefits are also derived. Among rural producers, 54 percent felt that they probably could not find any other work in their surrounding area, if they did not know how to make crafts. Several individuals stated they simply had no other skills. In contrast, only 21 percent of the urban producers thought this.[9] These figures indicate that the ability of the handicraft sector to provide jobs is perceived as more crucial in rural than in urban areas. Over 70 percent of the rural respondents stated that they never had to leave their home area in search of a job, because they could earn money from crafts. Although the difference was not statistically significant, 57 percent of the urban producers were never in this position.[10] The opinions of the rural and urban producers are significantly different about the necessity to leave their homes to find work. Only a quarter of rural producers in comparison to almost half the urban producers thought that this might be necessary some day.[11] Most rural producers felt that they would not be able to search for work outside their home village because they were either too old to leave or they had too many responsibilities at home. In contrast, many urban workers felt that it might be necessary because they were not making enough money from crafts. Several of these urban workers felt they could find other work involving skilled labour or some type of self-employment. These findings support the hypothesis that more social benefits are derived from crafts in rural areas than in urban areas because of the employment opportunities generated through craft production.

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[9] Significant at .0003 (Chi-square = 16.02, d.f .2), cc = .21.

[10] Not significant at .27 (Chi-square 1.16, d.f. 1), cc = .07.

[11] Significant at .01 (Chi-square = 8.54, d.f. 2), cc = .16.

Rural and urban producers' opinions on the importance of the craft sector on village/urban development were not statistically different. In both cases the majority felt that the sector makes a positive contribution. Among rural producers, 73 percent said that the craft industry was 'important' or 'very important' for development, compared with 90 percent of urban dwellers.[12] Both groups felt that the main contribution to development came from the sector's ability to provide jobs.

Opinions on the relation between crafts and culture varied significantly between rural and urban producers. Among rural producers, 90 percent said craftwork was part of their culture, in comparison to only 55 percent of urban producers.[13] This result is logical because most rural producers are making traditional crafts, while almost all urban producers are making contemporary crafts. Regarding crafts' contribution to culture, 85 percent of rural producers felt that their crafts made either a 'contribution' or a 'great contribution' to their tribal culture, compared with 61 percent of urban producers.[14] This difference again is logical because rural crafts are often based in specific tribal custom, while no tribal distinctions classify the urban contemporary crafts and their producers.

Nine different aspects have been examined to compare differences in social and cultural impact of the craft sector on rural and urban producers and their households. Except for one aspect, the hypothesis that more benefits are found in rural areas than in urban areas has been generally proven.

8.5 THE IMPACT OF MARKET ACCESS

8.5.1 Profiles of Two Different Marketing Situations

This study has found that most of Botswana's craftspeople have access to at least some type of market. Two-thirds of the 200 informal producers surveyed have non-profit organisations coming to their village to buy crafts on a reasonably regular basis, making

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[12] Not significant at the .05 level, p = .14 (Chi-square = 6.81, d.f. 4), cc = .15.

[13] Significant at the .05 level, p = .0000 (Chi-square = 22.49, d.f. 2), cc = .25.

[14] Significant at the .10 level, p = .10 (Chi-square = 7.7, d.f. 4), cc = .17.

this the most significant marketing opportunity. About one-third sell to local people and government or NGO extension officers living near them. About the same proportion of producers manage to sell to visiting officials, while 23 percent sell to tourists. Very few informal producers (seven percent) have access to urban craft wholesalers or retailers.

Some producers do not have access to any regular or reasonable market. They live in remote places that are not frequented by tourists, only have a few development extension officers in their midst, and do not have any marketing organisations coming to them. Commercial middlemen are seldom able to travel to their areas because the purchase of only a few crafts from a few producers cannot justify the costly trip. When Botswanacraft Marketing Company was a parastatal, it used to buy in some of these remote areas (e.g. western Ngamiland Bushmen and Herero craft producers, Nata area basketmakers, Chobe Enclave basketmakers and woodcarvers, Kobojango area basketmakers), but gradually stopped because it could no longer cover the costs. Several times NGOs or missionary groups tried to fill the gap left by Botswanacraft by working within these remote areas, but their success and sustainability proved to be erratic.

In this study, about ten percent of the respondents fall into this 'poor market' situation, and are found in two of the above mentioned geographic areas (i.e. western Ngamiland and Nata) and a third area that never had access to the Botswanacraft market. Several years after Botswanacraft stopped buying in western Ngamiland, an donor-supported NGO operated in the area for a few years in the mid-1980s, but that organisation collapsed once the donor money dried up. In 1994, after this research was completed, another NGO group started to operate in only one of the western Ngamiland villages, and one of their projects included marketing traditional crafts. Long after Botswanacraft stopped buying in the Nata area, the basketmakers started to sell occasionally to a local shopkeeper, but this survey determined that these sales have not been substantial. With the recent opening of the Nata Bird Sanctuary, an improved market from tourists may now exist. The third group, Mosetlha potters, never having regular contact with any marketing organisations, have focussed on street sales in Lobatse, Kanye or Jwaneng (nearby towns that are not frequented by tourists).

Within the 'poor market' category, 80 percent of the respondents have no education, compared with 57 percent of those with a market. For 99 percent, the craft producer is the only person in the family who is earning an income, in comparison to 49 percent of the respondents with a substantial market. More women are found in the groups without a market, and about half the women head their own households. These findings illustrate the extremely precarious position of these families who have no access to a decent craft market. This situation is addressed in the last chapter on policy.

8.5.2 Differences in Financial Benefits

Not surprisingly, this study found that access to an adequate market was a major factor influencing the level of financial benefits obtained by individual producers (Table 8.1). Furthermore, the producer's income significantly affects total family income. More producers without a market rely on 'handouts', such as remittances and pensions, than those with a good craft market. Logically, those with good markets find crafts to be more important to their household's welfare. Producers with poor markets, who also mention that crafts are quite important to their households, are living in very tenuous conditions.

One may wonder why these producers bother to make crafts since they have no reliable market and are not earning very much, but according to them, other options are just not available. Three-quarters of these producers mentioned that they continue to produce because they can use the crafts they make while hoping for a sale. About two-thirds of the producers in both categories felt they could not find any work other than making crafts. For those who thought they could find other work, only informal opportunities (such as hut building, reed collection and causal labour) were mentioned by those producers without a market. Because of these producers' low education levels and limited alternative employment opportunities, along with responsibilities at home, only 14 percent claim to have ever left their home area to try to find work. These findings clearly suggest that this group is quite vulnerable and would benefit from a more reliable marketing system. Box 6.7 in Appendix 6.1 further illuminates these findings by providing some direct quotations from the producers.

TABLE 8.1 FINANCIAL DIFFERENCES BETWEEN PRODUCERS LIVING IN AREAS WITH A MARKET AND IN AREAS WITHOUT

INDICATORS	PRODUCERS WITH MARKET (N=308)	PRODUCERS WITHOUT MARKET (N=34)
Income:		
Annual income from crafts – mean	P760	P224
Annual income from crafts – range	P0-P12,000	P12-P1,440
Total household income – mean	P2,178	P792
Total household income – range	P9-P31,730	P120-4,200
Most important method of earning income:		
Craft production	80%	69%
Sale of other products/services	7%	5%
Sale of livestock/crops	5%	5%
Remittances	1%	15%
Pension	0%	5%
Importance of craft income to household:		
Very important	85%	78%
Not important	15%	22%

Source: Individual Producers Questionnaire

The evidence from this study on the significance of market factors confirms results from three other studies. For example, Kunze (1989) discovered the importance of craft purchases by tourists when he undertook a socio-economic baseline study for the Molapo Development Project among villages situated along the Maun-Moremi road, which is frequented by tourists travelling to Moremi Game Reserve. He discovered that over half the 350 households in the area are headed by women, and 50 percent of the women interviewed were active in basketmaking because they could sell to passing tourists. This opportunity led to basketmaking being the most important source of cash income for a third of the women interviewed.

In contrast, the skilled craftspeople in the Kobojango area of north-eastern Botswana struggle to find a market for their baskets. Botswanacraft used to travel there in the

1970s, but inaccessibility during the months when the Motloutse River flowed, forced Botswanacraft to take this area off their buying schedule. In 1988, at least 60 weavers in this area were identified as still making baskets and half were interviewed (Terry 1988a). Those interviewed stated that they had three different marketing options, but none of them were reliable or regular: 1) selling to villagers, teachers and visitors in their village, 2) travelling to the towns of Bobonong and Selebi-Pikwe and selling door-to-door, and 3) travelling to the Tuli Block area and selling to lodge owners and tourists. This latter option was considered to be possible for only a very few weavers who lived near enough to make the trip viable. Even for them, the small tourist market was never consistent enough to make it a dependable option. Pointedly, all but a few of the oldest weavers stated that they would produce more items if they had a larger, regular market.

A third example can be found in the Chobe Enclave where 70 producers (mostly basket-weavers, and some woodcarvers) were surveyed (Terry 1988c). These producers stated they had a few different marketing options, but none were without significant problems. Botswanacraft used to buy there in the 1970s, but stopped because of the remoteness of the area. Tourists come to the nearby Chobe National Park, but seldom make their way to the Enclave villages. The producers have trouble getting lifts from the few passing vehicles, and the abundance of wild animals prohibits walking to the tourist lodges. About half the surveyed producers said they try to sell to villagers in their own village, but this is not satisfactory because so many women make baskets. One-quarter attempt to sell to teachers and government officers, but again this market is very limited. About 14 percent try selling in other villages, seven percent sell to visitors and the occasional tourists who come to their village, while only five percent occasionally struggle to travel to Kasane and sell directly to lodges. Over half the producers felt that although they try to market crafts in these ways, they "really had no market at all." Because of these marketing problems, only three percent of the 4,000 Enclave people produce crafts, compared to 42 percent of the 5,000 people living in Etsha, Ngamiland (Terry 1988c:19). During the 1988 survey, 73 percent of the producers felt that the only way their marketing problems could be solved would be by Botswanacraft coming again regularly. Almost two-thirds said that they would definitely start to produce more crafts again if there was

a regular market. Botswanacraft never did start to buy again in this area, but in late 1989 a local NGO was started by a volunteer organisation to assist craft producers. By having this active handicraft development service and marketing support available, the situation changed almost immediately. A group of around 70 relatively inactive producers grew to 170 active producers by late 1991, earning a total of P7,780 and between P3 and P337 each per annum from crafts (Brøndum, pers. comm., 1991).

8.5.3 Differences in Social and Cultural Benefits

This study also confirms that social benefits are greater for individual producers in areas with access to a decent market. A significantly higher proportion of producers with a market are happy making crafts (84 percent) compared with only 69 percent without, which suggests a fair degree of frustration among the producers without a market. Craftwork is considered to be more socially acceptable in areas with a market than those without. As for the contribution of crafts to village development, 85 percent of the respondents with a market felt that the sector contributed to development, as compared with 79 percent of those with no market.

On the other hand, the results reveal that the state of the market has no bearing on cultural benefits. All the producers without a market felt that their craftwork is part of their culture, compared with 83 percent of the producers with a market, and both groups equally felt that their craftwork contributes to their culture. This response is understandable, considering that the producers without a market are making traditional crafts grounded in the cultures of Botswana.

8.6 CONCLUSION

This positive picture of the handicraft industry, which has been cited in the limited literature and further developed from this research, should help the Botswana government and non-government support organisations to recognise the financial, social and cultural value of craft activities to individuals, their families and their communities. This recognition should lead to increased willingness to promote and support the sector.

9. THE HANDICRAFT INDUSTRY'S CONTRIBUTION TO NATIONAL WELFARE

9.1 INTRODUCTION

The craft sector has often been dismissed from serious consideration, being judged as "sentimental nonsense" (Karsten 1972). Findings from this study support more recent literature that describes the growing realisation of the importance of crafts to national economies (e.g. Farine 1988; Kennedy 1988; Pye 1988; Durham 1997). This chapter highlights crafts' contribution to the national economy and development of Botswana by addressing the second objective of this thesis:

2) To estimate the financial, economic, social, and cultural value of the handicraft industry to the nation of Botswana.

All three surveys and the ten handicraft financial and economic cost-benefit models provide data for this discussion and, where possible, the results are compared with the literature. National-level figures are calculated including totals for employment, income, turnover and foreign exchange. The total value of the sector to the economy is estimated, along with other aspects of the sector's economic efficiency. The social and cultural impact of handicrafts at the national level is considered, including the possible impact of craft sector employment on reductions in state welfare and social problems. The symbiotic relationship of the handicraft and tourism sectors is also included in this discussion. Finally, an attempt is made to describe the economic characteristics of natural resource use and the issues associated with over-utilisation.

9.2 FINANCIAL AND ECONOMIC IMPACT

Several indicators have been calculated that provide insights into the handicraft sector's ability to contribute positively to Botswana's welfare. While the contribution may be small relative to other sectors such as mining, the results do confirm that the craft sector has a positive impact on the nation, and is not a drain on the economy.

The finding that about 5,000 individuals are employed in craft production and about 120 in craft marketing implies that the craft sector makes a small, but important, contribution to the reduction of unemployment in Botswana.[1] The total employment of 5,120 is 1.39 percent of the national labour force and 1.86 percent of the employed population.[2] Being particularly adept at absorbing the otherwise unemployable or underemployed, especially in dispersed rural areas, Botswana's craft sector activates entrepreneurial resources, while simultaneously contributing positively to economic growth (Upadhyay 1973; Allal and Chuta 1982; Cohen 1993b). Furthermore, capital is used efficiently to create jobs as shown by the figures in Chapter 7 on capital costs per unit of employment generated. Jobs are created most efficiently in all the informal production activities and the formal activities of miscellaneous crafts, jewellery and pottery.

When individual income figures are aggregated for all craft producers and marketers, an estimated total of P3.7 million in income is generated each year through the craft industry. Although this figure is small in relation to the national economy, it indicates a much needed and significant injection into local village/district economies (Hermans and Stone 1991:227). Employment and income generated directly through the craft sector and increased through multiplier effects (Goodall 1987:314) are also likely to lead to small reductions in the Botswana government's welfare expenditures (see Section 9.4).

As for sales turnover (i.e. gross output), the craft industry generates about P8.8 million per year, which includes some P1.4 million from informal production, P5 million from formal and P2.4 million from Botswana crafts sold in marketing outlets.[3] This contribution to the national income of P8.8 million in consumers' expenditures on crafts should not be considered alone. Account should also be taken of the consequent

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[1] The longevity of this employment is also important to note. The average production unit in Botswana has been in business for 9.2 years and the average marketing outlet for 8.5 years.

[2] 1984/85 Labour Force Survey figures as cited by Alexander (1991:42).

[3] P2.4 million represents only a portion of the P7.9 million sales turnover of the retail shops. The rest comes from the sales of books, and crafts and clothing made in other countries. If all sales from craft marketing outlets were to be included, the total gross output for the industry would be P14.4 million for 1990.

multiplier effect as it spreads through the districts and the national economy (Hermans and Stone 1991:227).[4] The size of the multiplier effect depends on the proportionate income increment spent on other domestic goods and services. While no multiplier has been calculated for the craft sector, the one for the Botswana tourism sector has been estimated at 1.1 (ITB 1979:140). This is probably a reasonable estimate for the craft sector too, given the close relationship between the two sectors.[5] Thus the P8.8 million in gross output arising from consumer spending on crafts in Botswana can lead through successive waves in spending to further increases in national income.[6]

About 30 percent of the production units' and marketing outlets' turnover is exported, leading to foreign exchange earnings of about P2.2 million per annum. Foreign exchange generated through direct purchases by visitors and expatriate residents has not been included in this figure. Although insignificant compared with the earnings of Botswana's mining industry or craft sectors in other countries,[7] it is still a contribution to Botswana's economic development, especially considering the small capital needed to start these enterprises. Furthermore, the Botswana craft industry primarily uses locally available natural resources in its production. Therefore, as in many other countries, reliance on foreign exchange for inputs is negligible (see Section 9.6).

Donors and the Botswana government usually look at the financial viability and sustainability of a development programme before they consider supporting it. Often the

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[4] The multiplier is the quantitative measure of the proportionate increase in national income (in the form of additional consumption of final goods and services) relative to the initial increase in investment spending. Because the sum of all the additional consumption induced by the initial spending generally exceeds the amount of the initial spending itself, the multiplier has a positive effect on the economy (ITB 1979:140; Gittinger 1982:485). As a practical example: a craft marketing organisation purchases craft products, the craft producer then buys food from the local shopkeeper and beer from the village brewer, and then the shopkeeper buys bricks for his new house and the beer-brewer pays for her daughter's school uniform from the local sewer.

[5] In another analysis, Huntington-Rockford (1970) derived a regional multiplier of 2.5 for the Kasane/Maun area, which is frequented by tourists.

[6] Since the multiplier is a 'marginal' measure (in economic terms meaning 'extra' and in this case proportionate increases), it cannot be simply applied to the gross output figure.

[7] Exports from Botswana's mining sector were worth P2,926 million in 1989 (MFDP 1991:13). A selection of craft export data from other countries is cited in Chapter 2, Section 2.5.

handicraft sector is perceived as unprofitable and unable to stand on its own. By aggregating the financial annual net cash income from the static financial models a positive figure of P1.2 million per annum is calculated for the production enterprises. With an additional P400,000 from the marketing enterprises,[8] the estimated total financial annual net cash income of the craft sector becomes P1.6 million. Furthermore, the average FRR for all categories of craft enterprises is 19 percent over five years and 32 percent over ten years. These positive figures indicate that the handicraft sector as a whole is financially viable and sustainable, and therefore worth promoting.

To estimate the craft sector's contribution to national income, economic rather than financial values must be utilised (Gittinger 1982:287). By aggregating the enterprises' annual gross value added (GVA), the sector's contribution to the manufacturing portion of GDP can be determined (see Table 9.1). The results reveal that the craft production sector contributes some P3.35 million annually (or about 1.6 percent of manufacturing's contribution of P209 million for 1988/89) (MFDP 1991:13). When the marketing outlets' total estimated annual GVA (P1.94 million) is added to the production units' figure, the total contribution of the craft sector to the national income becomes P5.29 million. This amount may seem very small,[9] but it is not inconsequential because any increase in the GDP shows that the economic objective of development is being met (Gittinger 1982:292). The five- and ten-year average ERR for all craft enterprise categories are very high (543 percent and 544 percent, respectively), which further verifies that the craft sector is worth promoting from society's point of view.

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[8] P400,000 has been calculated from the craft marketing model, the surveyed marketing enterprises and observations. Because the annual net cash income from the craft marketing model is negative (-P54,175), it could not be used alone. The marketing enterprises were not asked to give investment or income figures, but it is known that many are making a profit. An annual net cash income for each enterprise was calculated in two steps. First, capital investment was estimated as a percentage of sales turnover (60 percent as taken from the model), and second, net cash income was assumed to be at least ten percent of the capital investment (i.e. opportunity cost of capital). For any enterprises thought to be making a loss, those losses were subtracted from the aggregated income from profitable enterprises to arrive at the final figure.

[9] Total GDP for 1988/89 was P4,988 million (MFDP 1991:13).

TABLE 9.1 GROSS VALUE ADDED (GVA) AGGREGATES FOR CRAFT PRODUCTION AND MARKETING ENTERPRISES (in pula, 1990 prices)

CRAFT CATEGORY	AGGREGATED GVA	% OF TOTAL PRODUCTION GVA	% OF TOTAL GVA
Basketry	207,979	6	
Beadwork	193,928	6	
Skinwork	273,023	8	
Carving	222,252	7	
Subtotal – Informal Production	897,181		17
Leatherwork	1,494,372	44	
Weaving	522,378	15	
Textiles	434,610	13	
Pottery	-37,645	0	
Jewellery	45,192	1	
Misc. Crafts	-1,360	0	
Subtotal – Formal Production	2,457,547		46
Total – Production	**3,354,728**	**100**	
Marketing Enterprises	**1,936,893**		**37**
TOTAL	**5,291,621**		**100**

Source: Financial and economic static and dynamic models (Appendix 7.1) and sample frames

9.3 SOCIAL AND CULTURAL IMPACT

While recognising the economic contribution of crafts, this study also confirms the point that "the importance of the sector is far greater than its contribution to GNP" (Farine 1988:10). Like other handicraft programmes in other countries, which create indirect social benefits (Allal and Chuta 1982:106; Krause 1997:5; The Craft Center 1998:8), Botswana's handicraft sector has a positive social and cultural impact on the nation.

Employment opportunities created through the craft sector allow people to be independent of social welfare, and help to fulfil government's goal of income security, which leads to food security. When people cannot find jobs, they often need support from their relatives, welfare programmes or drought-relief aid, while some resort to begging or stealing. In an earlier study on tourism, one producer along the main Francistown/Gaborone road adroitly summarised these points, saying "because of the drought we have no way of making money and without these carvings we would starve or be forced to steal food" (Fowkes 1985:39). As a generalisation, gainful employment for society's members creates social stability.

Any development of society's members, in terms of self-confidence and self-reliance, will collectively have a positive impact on all of society (Lewycky 1977; Gianturco and Tuttle 1997). The conclusion from Chapter 8 that the craft sector makes a positive contribution to individual and community development has obvious repercussions for the overall development of the nation. If individual people and communities develop fruitfully, the sum total can lead to a developed nation.

The majority of individuals involved in the craft sector are women, tribal minorities and the so-called Remote Area Dwellers (RADs). This helps government to meet its goals of having all disadvantaged groups "participate equitably in national life and share in the benefits of economic development" and "every citizen is entitled to a minimum standard of life that is consistent with human dignity" (MFDP 1991:385).

Most respondents in this study felt that the craft industry contributes positively to national culture, which generally confirms other findings (e.g. Clason 1990; Seidman 1990; Evans-Pritchard 1993). Furthermore, this study reinforces the idea that a positive cultural identity enhances national identity, nation-building, and international cooperation (Parsons 1987; Weiner and Schneider 1989; Bauman 1997). The development of the cultural elements of society should intertwine with economic and social enrichment to cultivate a well-rounded society. All these points are revealed in some of the comments of the respondents who specifically mentioned that craftwork preserves old traditions, creates better understanding among the different groups in Botswana and fosters a national identity. Some respondents said other countries could learn much about Botswana from these handmade cultural goods and images (Appendix 6.1). The craft sector also helps to meet government's strategy of making "culture accessible as a living and evolving tradition" (MFDP 1991:387) by incorporating cultural activities into everyday existence.

9.4 REDUCTIONS IN THE NEED FOR SOCIAL SUPPORT

Any income generated through the craft sector has positive implications for the Botswana government from both a social and economic point of view, because self-reliant families do not need to receive, or can be at least less dependent on, the various forms of state welfare. Specific examples of Botswana's varied social welfare programmes are cited in the literature (Callear 1989; OFSG 1990; Perrings *et al* 1992; Love 1994; Tsie 1996; MFDP 1991, 1997; Hitchcock 1999). In 1991 over 6,000 'permanent destitutes'[10] and some 36,000 'drought-induced destitutes' received financial support under the 'destitute programme', while 340,000 'vulnerable' people[11] and 37,000 RADs received welfare assistance mostly as food supplements and rations. The Arable Lands Development Programme (ALDEP), which began in 1979 and targeted over 60,000 farmers who ploughed less than ten hectares of land, provided subsidies in the form of free seeds,

[10] Defined as "disabled, infirm, or otherwise unable to fend for themselves economically."

[11] 'Vulnerable groups' include: pregnant women, lactating women, pre-school/under five years old children, TB out-patients, permanent and temporary destitutes, underweight and severely underweight children.

fencing materials and draught power. An average of P24 million was spent per year from 1985 to 1988 on the Accelerated Rainfed Arable Programme (ARAP), an agricultural support-based programme designed to pay people for work in their own fields, including destumping, weeding, fencing, use of draught power, crop protection and free seed.[12] Between April 1982 and June 1988, P258 million was spent to implement a major relief and recovery programme called the 'Drought Relief Programme' (DRP), which was designed to replace incomes lost through drought and to preserve rural productive assets. A further P182 million was spent over the next two years in the "recovery phase." As part of the DRP, the Labour Based Relief Programme (LBRP) provided direct income support in the form of wages for public sector projects to an average of 42,000 people per year, or roughly a quarter of rural households in Botswana, and 20 percent of the working population at the peak of the programme. The DRP also employed 24,000 women in the 'hand-stamping programme' to pound grain at schools for half a day, Monday through Friday.

The Oxford Food Studies Group (OFSG1990:vii), after conducting a four-month evaluation of the government's drought programme, noted that "despite the government's effective drought relief programme, increases in rural poverty have left more families vulnerable to the next drought." They made the following recommendation:

> "Accelerated investment in rural areas, directed towards increasing the economic self-reliance of the poor, is the main way in which Botswana can minimise the social and financial costs of drought in the future. Given increasing pressures on the government budget, this investment may mean the difference between relative financial and operational independence and a much greater reliance on international donors for drought relief in the future."

Income generated through craft production and marketing matches precisely the goal of "economic self-reliance of the poor." The ability of households to generate incomes,

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[12] The damaging aspects of ARAP (i.e. damage to the environment from destumping, agricultural extension officers tied up as clerks and not able to do extension work, and most benefits going to tractor owners) were recognised, along with the fact that the cost of producing a tonne of maize under ARAP was more than twice the import price of one tonne, and the programme was discontinued in the late 1980s (MFDP 1991: 257&265).

which are sufficient to support themselves in both normal and crisis years, is the key to making households self-reliant and less dependent on interventions in drought years (Masire 1993:8). "Accelerated investment in rural areas" as transport subsidies or infrastructure support for craft marketing operations, and quality upgrading training or new product development should be part of the "drought-proofing strategies," which can help to "minimise the social and financial costs of drought in the future."

Although no data are available on the number of producers or their family members getting social welfare, only two respondents during this study mentioned that they or family members were involved with work in the LBRP or hand-stamping programmes, and neither rated these as a more important form of employment than crafts. Even more difficult to gauge is the number of producers who would be on welfare were it not for crafts, but producers' quotations in Appendix 6.1, Box 6.1 suggest that some would be in trouble if they could not make money from crafts. This implies that at least some, if not many producers, especially in remote areas, would be on social welfare without crafts.

Ngamiland RADs have been quoted as saying, "We will never stand on our own feet unless we have a way to make a living. Food relief is destroying us." (Campbell 1992). Many of these same RADs have been, or could be, craft producers. Sufficient support (rather than the existing 'start-stop' approach) through production/quality training and marketing mechanisms, could increase the number making a living from crafts and give them back their pride and self-confidence.

9.5 THE SYMBIOTIC RELATIONSHIP BETWEEN TOURISM AND HANDICRAFTS

According to the Irish Tourist Board's (ITB 1979:117) study on the tourism sector in Botswana:

> "The purchase of crafts is regarded as an integral part of the holiday and over and above the basic needs – accommodation and transportation – crafts are regarded as a bonus for tourists."

Examining the link between crafts and tourism is important because of the contribution that tourism makes to the economy and to the craft sector, and because of the craft sector's ability to enhance tourism. Fowkes (1985) notes that tourism stimulates craft activities in three ways:

1) Tourists buy handicraft products directly from producers.

2) Craft shop managers and tour operators buy crafts from producers for resale to tourists.

3) Hotels and lodges buy crafts for decoration and use.

The handicraft sector benefits tourism by:

1) Broadening the tourism base that is based almost exclusively on wildlife.

2) Providing products for tourist consumption.

3) Further promoting Botswana as an attractive and interesting place for tourists to visit.

Three main benefits of tourism at a macro-economic level are directly linked to the handicraft sector. The direct purchase of craft products by visitors, which increases net flows of foreign exchange, is the first national benefit arising from the craft and tourism sectors (ITB 1979:98). Just over half of the craft-buying consumers are estimated to be visitors by the craft marketing outlets (37 percent are holiday visitors and 16 percent are business visitors).[13] Loosely assuming that half the customers make half the purchases, then a total of P4.4 million in 1990 might have been spent by visitors on crafts made in Botswana, or P7 million on all types of items sold in craft outlets.

Far higher figures were estimated in a 1984/85 Botswana study on tourism (CSO 1988a:78&80), in which 546 people (from a return of 621 questionnaires) responded to a question on handicraft expenditures. About one-third of the tourists coming to

[13] On top of these percentages, another quarter of craft consumers are thought to be expatriate residents. This type of person would also travel to various tourist areas of Botswana, buy crafts, and generate foreign exchange for the nation.

Botswana did not buy handicrafts during their visit. A recorded 20 percent spent between P1-50, 18 percent spent between P51-100, 6 percent spent P101-200, 2 percent P201-300, and 18 percent purchased crafts valued between P301 and P1,000. If these figures are aggregated to cover the estimated 250,000 visitors then the vast sum of P37 million could have been spent on crafts in one year. If the craft expenditures are aggregated to include only the 61,000 holiday visitors then the expenditure figure drops to P9 million, which is a more probable figure. When these two figures are inflated to 1990 prices, they become P62 million and P15 million, respectively. While the later figure is possible, it still is rather high, and one should bear in mind that the study made no distinction between handicrafts made in Botswana and those from other countries. In addition, even though the question asked only about **handicraft** expenditures, all gifts and souvenirs might have been included in the tourists' responses, even such items as clothing, books and wine. Furthermore, although the respondent was requested to answer as an individual, some may have included their whole family or group in the response. Assuming an average party size of 7.7 (CSO 1988a:7), and all respondents answering for their full party, then P8 million could have been spent by 250,000 visitors and P1.8 million by 61,000 holiday visitors (in 1990 prices).[14]

By looking at all the possibilities, a wide-ranging estimate of between P1.8 million and P62 million could be generated for Botswana in foreign exchange from tourist consumption of craft-related products. If the most likely figures of around P7 million to P15 million are selected, these figures still represent sizable foreign exchange earnings from visitors.

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[14] Having raised all these cautions about the study, another tourism study which was conducted in Namibia in 1995, came to similar conclusions to the Botswana study regarding craft expenditures (Barnes *et al* 1997:10). Both countries have roughly similar populations, tourism base and craft types, making the comparison reasonable. In the Namibian study, 402 people responded to a question on handicraft expenditures from a return of 750 questionnaires. The mean expenditure on crafts per respondent per trip was N$247. This figure represents 11 percent of the tourist's total expenditure in Namibia per trip. Aggregated to cover an estimated 275,912 tourists visiting Namibia per year, then as much as N$68 million could have been spent on crafts. When this figure is converted to Botswana pula and deflated to 1990 prices, the equivalent of P29 million could have been spent on crafts in one year in Namibia.

Employment generated can be considered the second national benefit from tourism and handicrafts. The same estimate of people employed in the craft sector can be used to calculate the number of craft producers producing and selling to tourists, even if those employed in the craft sector may be producing for others besides tourists.[15] Therefore, an estimated 5,120 people are employed in craft-related services to tourists. Of this, 120 provide 'direct' services (retailing) and 5,000 provide 'indirect' services (production). In a 1979 study (ITB 1979:123), 52 people were found to be directly employed in craft retailing activities serving tourists. Estimates were made that this figure would increase by 100 after five years if the tourism development plan prepared at that time went smoothly. This plan to have 150 employed by 1984 seems to have been overly optimistic when compared with the actual figure of 120 in 1990.

The 1979 study lacked figures on 'indirect' employment opportunities in the craft sector servicing the tourism sector, therefore substantially underestimating the total employment count for people working in the craft/tourism sector. The same degree of underestimation appears in the National Development Plan (NDP7), which states that only about 200 people were employed in 1984, and 159 in 1988, in the tourism-related activities of crafts and wildlife trophies out of a total of 3,006 and 5,352, respectively, formally employed people in the tourism industry (MFDP 1991:298). With no indication of how these craft figures were derived, one can only assume that they represent only some of the people formally employed in two or three companies that undertake tanning, leatherwork or trophy-making, and some craft retail personnel. The MFDP figures underestimate the number of people employed in the formal craft sector by more than 500. Furthermore, if full- and part-time, and direct and indirect employment is considered, those figures represent only three to four percent of the number of people engaged in craft businesses in Botswana. As a matter of policy, government should use both figures – 120 direct and 5,000 indirect employees – to provide a full picture of tourism-related employment opportunities from the craft sector.

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[15] As a comparison, it is standard procedure to include all people employed in air transport services when calculating tourism employment totals, even if services are provided to others besides tourists (ITB 1979:119).

The third benefit from the symbiotic relation of tourism and crafts arises from their ability to redistribute wealth and benefits from the formal sector to the informal sector and to remote areas. As suggested by Barnes (1991:357), Botswana needs to ensure that its tourism policy creates real mechanisms to enhance the distribution of benefits from formal tourism and marketing operations to local communities. To this end, tourism plans should promote such activities as craft demonstrations, exhibitions, fairs, markets and 'traditional villages'.

Besides these important economic benefits, the nation can also benefit from the positive image that is projected about Botswana through tourism and handicraft promotion. Images of handicraft products and production, and material cultural items help to promote tourism, while the tourism sector creates one of the markets for craft products. People's opinions on Botswana's ability to project successfully this positive image of crafts and Botswana as a quality nation to visit are mixed. In this research, several craft marketers praised the quality of Botswana crafts, while others felt that Botswana had a long way to go before it could offer quality service and 'value-for-money' in the craft sector (see Chapter 6, Section 6.5 and Appendix 6.1, Boxes 6.5 and 6.6). The main areas for service and product improvement included: higher production rates of good selling products, more variety, improved access to products along with better procurement/distribution systems, more reliable supplies, better quality products, more competitive pricing, more available cultural information on the products, and streamlining Department of Wildlife and National Park's confusing and bureaucratic systems for obtaining trophy dealer's licences and wildlife export permits. These points reiterate other suggestions made throughout the past three decades on tourism and crafts (ITB 1979; Pfotenhauer 1991).

Obviously further work needs to be done to maximise the social and cultural benefits from the interrelated activities of handicrafts and tourism, and to optimise the projection of positive images of Botswana. Supporting research into the interrelationships between crafts and tourism can help to increase the understanding of these two areas, and enhance the impact. For example, during a 1990 symposium on 'Tourism in Botswana', about half the papers referred to the allied industry of handicrafts within tourism (Pfotenhauer 1991), but no paper was requested specifically on the topic. Government and private

sector tourism brochures conveniently use Botswana handicrafts to promote Botswana as a tourism destination. In a random selection of 25 tourist brochures, 12 carried images of Botswana craft products or producers. However, little is done to back up this apparent interest in crafts and powerful promotional imagery with programming support. Genuine and concentrated promotion of craft-related activities could enhance and enlarge the tourism base in Botswana.

9.6 ECONOMIC CHARACTERISTICS OF NATURAL RESOURCE UTILISATION

This section will attempt to describe the economic characteristics of natural resource utilisation in the craft sector and problems associated with over-utilisation. Many producers interviewed during this study, live in areas that are unsuited to crops and only support low-density livestock husbandry. The physical and agricultural resource constraints have led to low density human settlement, which has in turn limited the development of off-farm economic activities other than trading and government services (OFSG 1990:14). By having the opportunity through craft production to use naturally available materials, producers make use of the nation's resources and have an economic activity that is not dependent on these very limited agricultural resources or on struggling to trade within a widely dispersed population. Using local natural resources also limits dependence on imported materials and therefore foreign exchange.

The utilisation of natural raw materials (as described in Chapter 3, Section 3.1, Chapter 6, Section 6.2.4, and Appendix 4.9) supports government's development aim to use the nation's resources on a sustainable basis to enhance economic growth (MFDP 1991:93). By aggregating the figures from the cost-benefit analysis models, an approximate economic value can be placed on the natural resources used per annum in Botswana's craft industry. The total estimate comes to P3 million, and Table 9.2 breaks down the value by craft categories. Skinwork and leatherwork together, using primarily wildlife resources, represent 80 percent (by value) of all natural resources used per year. The categories primarily dependent on plant natural resources (basketry, part of beadwork, carving and miscellaneous crafts) only represent about ten percent of the total use value.

The remainder includes clay, mineral resources, and rangelands for karakul sheep and goats (wool for weaving and goat skins for skin and leatherwork).

TABLE 9.2 TOTAL ECONOMIC VALUE OF NATURAL RESOURCES USED IN CRAFT PRODUCTION (in pula, 1990 prices)

INFORMAL PRODUCTION			FORMAL PRODUCTION		
CRAFT CATEGORIES	AGGREGATED VALUE OF NATURAL RESOURCES	% OF TOTAL VALUE	CRAFT CATEGORIES	AGGREGATED VALUE OF NATURAL RESOURCES	% OF TOTAL VALUE
Basketry	225,148	7	Leatherwork	2,178,000	72
Beadwork	22,525	1	Weaving	198,000	7
Skinwork	231,231	8	Textiles	0	0
Carving	104,720	3	Pottery	53,625	2
			Jewellery	12,000	<1
			Misc. Crafts	330	<1
Subtotal – Informal Production	583,624		*Subtotal – Formal Production*	2,441,955	
TOTAL				**3,025,579**	**100**

Source: Financial and economic static and dynamic models (Appendix 7.1) and sample frames

Another positive impact of craft production on Botswana's environment (albeit on a very small scale) is the economic use of 'waste' products, and subsequent reduction of harmful and unsightly littering. As noted in Chapter 6, about 11 percent of the surveyed producers use such scrap products as plastic bags, plastic orange/onion sacks, maize meal sacks, used tape from cassettes, wire, scrap metal and scrap cloth. Without craft production many of these would simply go unused and add to environmental pollution. This finding is confirmed in the literature for at least one project where women reuse plastic bags to make saleable baskets, rugs, and shopping and school bags (Masilo 1996:12).

Not all aspects of natural resource utilisation are positive, however. Although some resources are under-utilised, there are shortages reported for others (Taussig 1980; Cunningham and Milton 1982; Taylor and Moss 1982; Bendsen and Gelmroth 1983; Sakata 1990). 'Ease of entry' is an important element of a viable informal craft sector. However, an open-access situation, which is common to the collection of most raw materials for indigenous craftwork, can lead to uncontrolled utilisation, eventual over-utilisation and sometimes local disappearance of specific species (Barnes 1997:56). Certain resources are particularly susceptible to over-utilisation, for example, the raw materials needed for the most popular products (e.g. *mokola* palm and the trees used for dyeing the palm in the basketry industry), and resources that are very difficult/costly to protect, manage or propagate (e.g. again the trees used for dyes, and hardwoods for the carving industry). Depreciating the natural resources 'capital' will cause craft producers to forfeit an important source of income, and craft projects to lose their value as a development option (Cunningham 1987:266, 1998:44; Barnes, pers. comm., 1994; Bogatsu 1994:22; Standa-Gunda and Bond 1996:2; Vuetilovoni and Cortesi 1998:11).

Just over one-third of the individual producers surveyed for this thesis mentioned that they have raw material problems. The specific problems, which are noted in Chapter 6, Table 6.13, and elaborated on in Box 6.8, Appendix 6.1, can act as 'early warning signs' for resource depletion problems and as guides for targeting action to the most crucial areas. Areas in need of both biological and economic research include: the various species of trees used in the woodcarving industry, especially *mophane* and *mokomotho* in the Shashe area of north-eastern Central District and the various softwood species in the Serowe area of Central District, ostrich eggshells in Ghanzi and Kgalagadi Districts, and further study on tortoise shells in Ghanzi District and western Ngamiland. Many natural resources are only useful to the handicraft sector and would go unused were it not for craft production. Some, however, serve other sectors or have multiple uses (e.g. food, building materials, firewood and medicines), and must be managed holistically.

One facet of Botswana's craft production and natural resources is influenced by international legislation. In October 1989, the Convention for International Trade in Endangered Species (CITES) listed the African elephant on Appendix 1, effectively

curtailing legal international trade in elephant products, including ivory, between member states that have not taken out a reservation. Because Botswana lost most of its overseas market for carved ivory products, an estimated 50 ivory carvers were made redundant. Some did turn to wood- or bone-carving, but neither of these proved to be a good substitute, because the work was not as specialised and the materials were less valuable. One production unit lost about P400,000 in sales per year (from an average of P1 million per annum) once they could no longer sell ivory products. One Gaborone-based craft retail shop had its sale turnover drop from P72,000 per annum to P6,000, and soon after closed down completely (Ngakane 1990:2). The new opportunity in 1999 for Botswana to sell its ivory stock to Japan may add to the economy and provide budgetary inputs to conservation and research programmes, but it is unlikely to change the situation for local craftsmen.

The main goal of natural resource use and crafts should be to develop policy and strategies that use resources sustainably while optimising use values.[16] A balance must be found between using the environment for economic development and preserving the environment for future generations (Simon 1989:43; MFDP 1991:93; Terry *et al* 1994:56; Barnes 1997:57; Cunningham 1998:44&50; Vuetilovoni and Cortesi 1998:11; Carney 1999:1). The initial costs of restraint need to be weighed against the profits that can occur in the future. Ideally, profits from processing the natural resources should be used to maintain and build up stocks of renewable resources so that the resource capital base is not lost. These could be profits made by the producers or by the marketers. In reality, producers' profits, after wages are taken, are marginal, especially in the informal sub-sectors of basketry and beadwork. Any profit should remain in the hands of the producers to put back into the business or to increase their personal incomes. With only a few exceptions, most marketers do not feel that it is their responsibility to fund resource-depletion solutions even if their business depends on the products made from the resources. This conclusion was evident in a study on natural resource-based crafts and

[16] This is an assumption of 'strong sustainability', and it may, in fact, not be economically optimal. For example, it may be more economically optimal to draw down on the 'natural capital' and invest the proceeds in other forms of capital, such as factories, etc. Without having done any optimisation analysis, this study, however, makes the assumption that 'strong sustainability' is desirable.

marketing in Namibia (Terry *et al* 1994:38). These realities then put the burden on the producers to use the resources sustainably and equitably in the first place, and/or on government, NGOs or donors to provide funding for research, replanting and restocking programmes.

As indicated in Chapter 6 only a few producers in this survey could suggest ways to handle raw material problems. Most of these revolved around using alternative materials or moving further afield to find the needed materials, thus effectively pushing the problem away rather than tackling it. Several studies over the years have made recommendations for addressing some of these resource issues for southern Africa (Cunningham and Milton 1982, 1987; Taylor and Moss 1982, 1983; Bendsen and Gelmroth 1983; Cunningham 1987, 1988, 1992; Terry 1987a, 1988a, 1988d, 1988f, 1990a, 1990d; Sakata 1990; Cunningham *et al* 1992; Hines and Cunningham 1992; Sullivan 1993; Terry *et al* 1994). One aspect, which has been repeated in many of these reports, has been the need to streamline any policy and legislation on the utilisation of wildlife resources, and to ensure that they are followed and enforced correctly and consistently (Sakata 1990; Terry 1988d, 1991b; Hitchcock 1999). Although the majority of the recommendations from all these studies are sound, only a few have been implemented. Several factors seem to have caused this, including: lack of financial and consistent technical support, lack of coordination between relevant government departments and between government and NGOs, lack of skilled personnel and lack of interest and time. Now the recommendations must be connected to the will and be matched to appropriate policy and support (Simon 1989:46&47), so that Botswana's natural resources can be managed pro-actively and used sustainably, leaving income-generating opportunities available for future generations.

9.7 CONCLUSION

This study has shown that the handicraft sector of Botswana should be given serious consideration, and not be described as "sentimental nonsense" (Karsten 1972). Although much less significant than certain other sectors in Botswana, such as mining, vehicle assembly or agriculture, the handicraft sector does yield positive economic, social and

cultural benefits to the nation of Botswana. All the financial and economic indicators prove to be positive, including national-level employment and income creation figures, total turnover and foreign exchange earnings. The total value of the sector to the economy is positive and all indicators show that the sector is economically very efficient. The sector makes a substantial contribution to the social and cultural life of the nation and is particularly adept at helping government to meet its goal of assisting disadvantaged groups. Although many factors are obviously involved, the sector has a positive impact on the nation by helping to reduce the number of households needing social welfare because 'unemployable' people can find employment in the craft sector.

The symbiotic relationship between the handicraft sector and tourism benefits the nation. Full recognition of this relationship, along with appropriate promotion and support, will strengthen the relationship and benefits that already exist.

Finally, this study has attempted to describe the economic characteristics of the natural resources used in the craft industry, and recognises that both positive and negative aspects exist. Again, increased appreciation of these issues, along with the development of appropriate policies and strategies, could help to maximise the benefits and reduce problems such as over-utilisation.

10. CRAFTS IN COMPARISON TO OTHER NON-FARM, SMALL-SCALE, INCOME-GENERATING OPPORTUNITIES

10.1 INTRODUCTION

In this chapter, the value of the handicraft sector, as ascertained from the surveys and financial and economic models, is compared with other non-farm, micro- and small-scale, informal sector, income-generating opportunities in Botswana (hereafter referred to as the 'non-craft sector'). Conclusions are drawn about the significance of the two sectors by testing the hypotheses in the fourth objective of this thesis:

4a) Private profitability, social, and cultural benefits are greater for individual craft producers and enterprises than for those in other non-farm, small-scale industries.

4b) Total financial and economic benefits and average private profitability and economic efficiency are greater for the handicraft sector in Botswana than for the non-farm, small-scale industry sector (exclusive of handicraft production).

Information for this chapter was drawn from the financial statements of various non-craft enterprises, informal interviews with some non-craft entrepreneurs, three 'national-level' studies on Botswana's MSEs and informal sector enterprises (SIAPAC 1991; Daniels and Fisseha 1992; Groth *et al* 1992) and from specific non-craft production project reports (Roe 1981; Taylor and Moss 1983; NADP 1985; FGU 1988a; Kgathi 1988; Kolhoff and Polet 1990; Merron 1993; Bishop and Scoones 1994). Cautious estimates of the number of enterprises and entrepreneurs in each enterprise category and the non-craft sector as a whole (Table 10.1) have been derived by extrapolating data from the literature after careful consideration of the methodology, and data reliability and validity. Each national-level study used different methodology, which created large discrepancies in the data collected and made comparison of the data very difficult. Appendix 10.1 provides a detailed explanation on the national-level studies' methodologies and conclusions, and on this thesis' extrapolated estimates. None of the national studies obtained income figures, therefore the financial statements and project reports were used for income estimates. All available examples were aggregated and averaged to obtain the figures in Table 10.2.

10.2 COMPARISON OF FINANCIAL IMPACT ON INDIVIDUALS

To begin the comparison of the financial impact on individuals working in the craft and non-craft sectors, employment opportunities in both sectors are examined. The handicraft industry employees 5,120 workers in 4,255 production and marketing enterprises (as noted in Chapters 6 and 9), compared with 94,200 workers in 81,900 non-craft enterprises (Table 10.1). Thus the craft sector provides substantially less income opportunities for individuals than the non-craft sector.

TABLE 10.1 ESTIMATED NUMBER OF ENTERPRISES AND WORKERS ENGAGED IN NON-CRAFT, NON-FARM, SMALL-SCALE ACTIVITIES IN BOTSWANA

TYPE OF ACTIVITY	ESTIMATED NO. OF ENTERPRISES	% OF TOTAL	ESTIMATED NO. OF WORKERS	% OF TOTAL
Beer-brewing	55,000	67.2	55,000	58.4
Vending/hawking	10,000	12.2	10,000	10.6
Hut building	5,000	6.1	5,000	5.3
Grass/reed collection	4,500	5.5	4,500	4.8
Other services	1,300	1.6	2,500	2.7
Food processing/service	1,000	1.2	2,000	2.1
Repair	1,000	1.2	1,800	1.9
Veld products collection	1,000	1.2	1,000	1.1
Sewing	600	0.7	2,600	2.8
Knitting/crocheting	600	0.7	1,800	1.9
Fishing	600	0.7	700	0.7
Hunting	400	0.5	4,000	4.2
Block/brickmaking	300	0.4	1,500	1.6
Carpentry	245	0.3	700	0.7
Bakery	175	0.2	525	0.6
Metalwork	125	0.2	375	0.4
Milling	55	0.1	200	0.2
TOTAL	81,900	100	94,200	100

See Appendix 10.1 for an explanation of how these figures were derived.

An examination of annual per capita incomes in both sectors provides a useful comparison of the financial benefits to individuals. These income figures can be found in Table 10.2, along with typical wages from the formal sector (for work that could be possibly undertaken by at least some craft producers) and national-level mean per capita income figures. Wages for five craft production jobs and a craft development project coordinator fall within the top ten positions and the first quartile out of 51 activities. The only non-craft, informal activity that falls in the top ten is the owner of a sewing enterprise. Three of the craft entrepreneurs (pottery, carving and skinwork) all fall into the third quartile, while the last two (beadwork and basketry) fall into the last quartile. In the last quartile three non-craft activities come after the least profitable craft activity. The fact that over half the craft activities generate higher incomes than all but one non-craft activity suggests that the first hypothesis of the thesis' fourth objective is correct.

The average annual income of craft producers at P712 is basically the same as the estimated average non-craft worker at P708. The craft average is brought down by the low income levels of the beadwork and basketry sub-sectors, which reiterates the need for attention to these areas. The average non-craft income figure is affected by the sheer number of beer-brewers earning an average annual income of P700.

Regarding the contribution of the workers to their households' livelihoods, 54 percent of the craft producers said they were the only household member earning income (as noted in Chapter 6), compared with only 27 percent of the small-scale entrepreneurs surveyed by Daniels and Fisseha (1992:16). This reiterates the importance of craft earnings to individual households.

Further indication of the financial impact on individuals in the two sectors can be obtained by examining the results of the private profitability analysis, as outlined in Chapter 7. Slightly fewer craft enterprises proved to be financially profitable than non-craft enterprises (seven out of ten as compared to nine out of ten). Of the profitable enterprises, the degree of profitability (based on the FRR indicator over ten years) is quite similar in both sectors, with blockmaking being the only exception (see Figure 7.3).

TABLE 10.2 INCOME EARNING POSSIBILITIES FOR CRAFT AND NON-CRAFT WORKERS (typical annual income, pula, 1990 prices)

INCOME EARNING ACTIVITY	ANNUAL INCOME
Local craft coordinator/marketer for a rural NGO project	***2,990***
Jewellery	***2,850***
Leatherwork	***2,760***
Sewing (own business)	2,760
Textiles	***2,740***
Full-time District Council labourer	2,620
Government casual labourer *	2,530
Miscellaneous crafts	***2,500***
Weaving	***2,400***
Building (modern, formal sector)	2,400
Typist (formal sector)	2,400
GNP per capita **	*2,304*
Hawker/vendor	2,000
Building (minimum wage) ***	1,930
Manufacturing (minimum wage) ***	1,930
Metalwork	1,920
Milling	1,920
Gang Leader for LG-34 Labour Intensive Road Improvement and Maintenance Programme *	1,900
Urban areas – Mean cash income per capita **	*1,831*
Wholesale sales (minimum wage) ***	1,800
Cleaner (office or shop)	1,700
Retail sales (minimum wage) ***	1,700
Blockmaking	1,680
Bakery	1,680
Sewing (employed in factory workshop)	1,600
Hunting	1,520
Night security guard (minimum wage) ***	1,500
Housemaid/domestic servant/gardener *	1,500
Labourer for LG-34 Labour Intensive Road Improvement and Maintenance Programme *	1,450

Continued on next page

INCOME EARNING ACTIVITY	ANNUAL INCOME
Pottery	***1,400***
Carving	***1,400***
Casual labour on commercial farms *	1,100[1]
All areas – Mean cash income per capita **	*848*
Skinwork	***790***
Pounding grain in Hand-stamping Programme *	780
Casual labourer LG-38 Labour-Intensive Public Works Programme*	750
Beer-brewing	700
Knitting	700
Estimated opportunity cost of labour in rural areas	600[2]
Destitute payment (social welfare)	540[3]
Rural areas – Mean cash income per capita **	*494*[4]
Crocheting tablecloths	480
Livestock herder	300
Beadwork	***270***
Veld products gathering and sale	270
Blacksmithing	240
Saddle repairs	240
Basketry	***220***
Hut building	174
Casual labour – Labour Based Relief Programme	163[5]
Grass and reed collection and sale	64

Sources: Survey Questionnaires, models in Appendix 7.1, and various secondary sources

Notes: Dashed lines divide the 51 positions into quartiles. All figures inflated or deflated to 1990 prices. Words in **bold italics** are craft activities, while those in *italics* are mean income per capita figures.

* Figures based on working 250 days per year to allow for a comparison with other incomes per annum, however casual labourers rarely work full-time throughout the year.

** Based on the 1985/86 HIES study (CSO 1988b); cash income figures per household adjusted to per capita figures based on 4.9 people per household.

*** Minimum wage data (CSO 1993a:5).

[1] Estimated from a survey of agricultural wages (Andrews and Manamela 1991:51).

[2] In absence of empirical data, based on prevailing view that opportunity cost of labour is one-half the lowest industrial class wage: P5.38 per day in 1991 (Andrews and Manamela 1991:56).

[3] MFDP 1991:389

[4] In comparison, the Bank of Botswana (1987:28&30) estimated P215 as the mean annual cash income per capita for 1985 in rural areas; inflated to 1990 prices becomes P360.

[5] Represents average annual wage per participant in LBRP (OFSG 1990:11). Daily rate in 1990 was P4.50 per worker and P6.00 per supervisor, but jobs were on a rotation basis, usually for no more than a few months, and only available in the agriculture off-season.

In summary, based on five different indicators, the craft sector is 'better' in three, and the non-craft sector is 'better' in the other two. Two measures suggest that the craft sector is slightly better than the non-craft sector in its ability to generate income for participating individuals and their households. Crafts also make a greater contribution to individual household livelihoods. However, more individuals are employed in the non-craft sector, particularly due to beer-brewing. Thus more households benefit from the non-craft sector, even though non-craft workers may be bringing home a smaller wage than many craft producers. There are opportunities for private profitability in both sectors, but more choices within the non-craft sector.

10.3 COMPARISON OF SOCIAL AND CULTURAL IMPACT ON INDIVIDUALS

As noted in Chapter 8, probably the primary social benefit stemming from the handicraft sector is its ability to provide employment for people with little or no education. As can be seen in Table 10.3, when comparing the craft and non-craft sectors, the craft sector's capacity to employ uneducated people is greater.

TABLE 10.3 EDUCATIONAL LEVELS OF CRAFT AND NON-CRAFT WORKERS

STUDY	% OF WORKERS	
	NO EDUCATION	EDUCATED BEYOND PRIMARY SCHOOL
Craftworkers		
This thesis study	59	5
Groth *et al* (1992:18)	65	0
Non-craft workers		
SIAPAC (1991:34)	32	14
Daniels and Fisseha (1992:23), for proprietors of enterprises	29	48
Groth *et al* (1992), for grain mills	25	33
PEER (1997:24)	17	34
Groth *et al* (1992), for bakeries	9	18

Source: as described in Column 1

A further social benefit derived from crafts is the ability to create income-generating activities in rural and remote areas. Over half the craft categories are able to do this, and all the traditional crafts can be found in very remote areas. In contrast, about eight out of seventeen non-craft categories are found in remote areas (e.g. beer-brewing, grass/reed cutting, building, veld products harvesting, hunting, fishing, and some food processing and repair activities). Production activities such as sewing, knitting, brickmaking, milling and bakeries are usually poorly developed in remote locations due to problems concerning inputs and viable markets (van Brink 1989:2).

Comparing the other social and cultural benefits to individuals working in the two sectors is more difficult. Many are subjective, and little research on small-scale enterprises has focussed on social or cultural issues. Hirschowitz (1991:8) does note from a study of almost 800 informal sector business owners, that the "people running an innovative type of business such as arts and crafts based ones were more likely to be enterprising than others." None of the studies touched on the entrepreneurs' satisfaction or 'happiness' levels with the work that they do, so this psycho-social aspect cannot be compared. Presumably workers' satisfaction in the non-craft activities that provide decent wages and working environments would be equal to that of the craftworkers. However, the innate satisfaction that comes with a creative activity such as handicraft design would presumably be lacking in most of the non-craft enterprises, especially if they focus on menial or repetitive tasks.

The feeling of dignity and self-reliance that comes from the ability to earn one's own living and contribute to family livelihood is presumably similar in both sectors, but this was only briefly mentioned in two studies, which covered all types of small-scale activities, including crafts. Groth *et al* (1992:8) state that rural industry has created two social benefits: "empowering rural communities through generating their own sources of income and reducing the need for direct government support of living standards." Morapedi and Jones-Dube (1988:55) concluded that small-scale industries have created some income and employment opportunities that have particularly benefited the poor, and

people in times of drought. According to them, one of the main social benefits attributed to MSEs has been an improved standard of living.

Both studies mention another social benefit derived from rural industries: reduction in rural-urban migration. On the one hand, more people are employed in the non-craft sector, and thus the impact on urban drift may be stronger. On the other hand, the proportions of rural and urban entrepreneurs vary. From this study, 93 percent of the craft producers are rural-based, in comparison with only 68 percent of all MSEs (Daniels and Fisseha 1992:A-13). Accordingly, the overall contribution to reduced urban drift may be similar for the craft and non-craft sectors.

Inherent personal flexibility in craft production, especially for women, can also be a benefit of non-craft activities, which are informal or involve self-employment. According to Daniels and Fisseha (1992:viii), 70 percent of Botswana's MSEs are located in the entrepreneur's home. Groth *et al* (1992:18) noted that 60 percent of rural entrepreneurs are involved in agricultural activities along with their entrepreneurial activity. Just over half the respondents in SIAPAC's study (1991:44) work part-time. SIAPAC also found that a strikingly large number of female entrepreneurs would like to work full-time, but cannot because of home and childcare responsibilities.

None of the small-scale sector studies mentioned the social area of 'community status', but it can be surmised that crafts probably give more status to individual communities than non-craft activities. Crafts are arguably much more interesting than non-craft activities to people outside that community. In addition, with the possible exception of beer-brewers, many workers in the same non-craft activity are not found in one location. Therefore, one village would not be known for its non-craft activity, unlike the villages that have gained prominence because of their craftwork. For the same reasons, the overall impact on community development in individual communities is assumed to be greater from crafts than from non-crafts.

Regarding cultural identity, preservation and strengthening, the contribution of the craft sector is assumed to be much greater than the non-craft sector. All of the traditional craft categories and certain aspects of the contemporary craft categories contribute positively to the cultures found in Botswana. In contrast, only one-third of the non-craft categories have any connection with traditional Botswana culture (e.g. beer-brewing, reed/grass collection, traditional hut building, veld products collection, hunting, fishing and some food processing enterprises). Due to the largely non-traditional nature of most non-craft activities, the contribution to culture is believed to be fairly limited.

In summary, this assessment suggests that the craft sector outweighs the non-craft sector in social and cultural terms. Of ten indicators, the craft sector reveals greater benefits in six areas. In the other four areas, both sectors are considered to be equal.

10.4 THE TWO SECTORS' CONTRIBUTIONS TO THE NATION

The contribution of the two sectors to the nation can be compared by aggregating various financial and economic figures and assessing the overall private profitability and economic efficiency of each sector (see Table 10.4). The figures in Table 10.4 indicate that the craft sector is more efficient than the non-craft sector in two of ten indicators (employment generated per unit of capital; ERR over ten years), and possibly in terms of foreign exchange generated. The sheer size of the non-craft sector outweighs the craft sector in five areas: contribution to employment, total income to individuals, gross output, total financial net cash income and total GVA. The average measures indicate that both sectors are financially and economically efficient, but the average profitability is greater for the non-craft sector, while the craft sector is more economically efficient.

No data were available from the literature on the non-craft sector's capacity to generate foreign exchange earnings for the nation. However, SACU creates problems for the average small-scale producer, because Batswana entrepreneurs cannot compete with production from South Africa. Botswana products are typically of poorer quality and higher priced. Handicraft production avoids this problem, because traditional craft products are unique to Botswana and have no direct competition from South African

crafts. In addition, most of the non-craft products and all of the services are sold internally within Botswana, and therefore generate little foreign earnings. The notable exceptions would be grapple from the veld products category, and some end products developed from hunting. Furthermore, many non-craft enterprises depend on imported inputs, thus using up foreign exchange rather than generating it. For example, almost all the raw materials and machinery for sewing, knitting, crocheting, bakeries and metalwork must be imported. From observation, most of the goods hawked on the streets or sold by informal vendors are imported goods.

TABLE 10.4 COMPARISON OF VARIOUS FINANCIAL AND ECONOMIC MEASURES

MEASURE	SECTOR VALUE	
	CRAFT	NON-CRAFT
Contribution to national employment: percentage of total national labour force	1.39%	25.6%
Contribution to national employment: percentage of the total employed population	1.86%	34.3%
Employment generated per unit of capital invested: ten craft and ten non-craft enterprises ranked by efficiency	6 enterprises in top 10	4 enterprises in top 10
Total income to individuals	P3.7 million	P56.5 million
Sales turnover (gross output)	P8.8 million	P174 million[1] P158 million[2]
Foreign exchange earnings	P2.2 million	n/a
Total financial net cash income	P1.6 million	P36.2 million
Average FRR for ten types of enterprises in each sector (over ten years)	32%	53%
Total GVA/sector contribution to GDP	P5.29 million	P103 million
Average ERR for ten types of enterprises in each sector (over ten years)	544%	347%

Sources: Enterprise models in Appendix 7.1, SIAPAC (1991), Kolhoff and Polet (1990)
Notes: [1] Aggregated values from the ten enterprise models; [2] Estimate from SIAPAC (1991:41).
Shaded rows indicate measures where the craft sector has a stronger value.

10.5 CONCLUSION

These findings suggest that the craft sector has a greater ability to provide substantial financial benefits to individuals and their households, and more social and cultural benefits than the non-craft sector, therefore, proving that the first hypothesis is correct.

The outcome of the appraisal substantiates only part of the second hypothesis regarding national benefits. Both sectors add financial and economic value to the nation but the non-craft sector provides more overall income due to its larger size. The non-craft sector has higher average profitability, but the craft sector is more economically efficient.

11. THE SIGNIFICANCE OF THE HANDICRAFT SECTOR: SUMMARY, IMPLICATIONS AND CONCLUSIONS

11.1 INTRODUCTION

This chapter contains conclusions regarding the impact of the handicraft industry on individual producers, their households and the nation. Along with the detailed benefits derived from the handicraft sector by individuals working in the sector and by the nation, further justification for promoting and supporting the craft sector is described in broad policy statements. Specific policy implications arising from this research are analysed, and suggestions are made on possible institutional structures to implement the policies and strategies. Some of the suggested policies are applied to four case studies and the impact noted. The chapter ends with conclusions on the thesis objectives and the results of the hypotheses tested throughout the research.

11.2 SUMMARY OF BENEFITS FROM THE HANDICRAFT SECTOR

This study has uncovered many benefits derived from the handicraft sector, which should provide justification and motivation for formulating policy and implementing programmes to support this sector in Botswana. This section summarises the most significant benefits, in order of importance.

For individual producers, their families and their communities, by far the most important impact of Botswana's handicraft's sector is its ability to generate employment and income opportunities, particularly for rural and very remote area dwellers, those with little or no formal education and other marginalised people. Craft income-earning opportunities are especially significant for these people because agricultural productivity is typically low and very few other income-generating activities are available to them. Within this scenario, craftwork provides employment during slack periods in the agricultural cycle and during drought years. While craft earnings were assumed to be important to the livelihood of individual producers' households, this study documents for the first time the absolute and very substantial contribution made by crafts. Over three-quarters of Botswana's producers feel that craftwork is the only or the most important source of income for their households. Seven out of ten categories of craft enterprises make a profit that can be put back into the business, and provide worthwhile returns on

producers' or owners' investments. All of these features of the craft sector can lead to a positive impact on poverty reduction.

The second most important area of benefits to producers and their families are social and psychological. Because of the creative and flexible nature of craftwork, a variety of personal benefits can be derived from the sector including a sense of identity, self-reliance, self-awareness, empowerment, confidence, respect and cultural self-esteem. In some cases, craftwork provides elevated social status to certain individual producers and to specific communities. Various individual attributes are also enhanced including entrepreneurship, initiative, productivity, leadership, risk-taking and management skills. Women in particular can benefit from craft production, because its flexible nature allows them to undertake their home and childcare responsibilities while providing income that they can control.

Parallel with social benefits to the individual come social benefits to the family and to society. Gainful employment for society's members can contribute to social stability. Geographical decentralisation of income opportunities helps to reduce rural exodus and the many associated social problems, which can in turn reinforce family cohesion and stability. Any strengthening of individuals' self-confidence and self-reliance will collectively have a positive impact on all of society. The facilitation of the rural poor in their own development can heighten community development, and even national development.

Probably the third most important benefit coming from the handicraft sector is the strengthening of cultural traditions for both individuals and society. The sector provides an opportunity for cultural self-examination and awareness, while it preserves and documents traditional crafts and associated cultural activities. The cultural aspect of the craft sector inherently helps government in its policy "to make culture accessible as a living and evolving tradition" (MFDP 1991:387). Through crafts, the promotion of cultural activities and the collection and distribution of cultural information adds to a positive cultural identity, which further enhances national identity, nation-building and, through these, international cooperation.

Although quantifiably less significant than the benefits to individuals and their families, the handicraft sector still has a positive impact on the nation. The handicraft sector is generally financially viable and sustainable, and makes a positive contribution to national income. Within the sector, capital is used efficiently to create employment. Eight out of ten craft enterprise categories are economically efficient and make a positive contribution to the nation's economic growth and welfare. Along with creating income for the nation, foreign exchange earnings are generated through export sales and sales to expatriate residents, visitors and tourists. Income opportunities generated through the craft sector for the nation's poor help to reduce government's social welfare expenditures.

Within the economy as a whole, the broader sectors of natural resources and tourism dovetail with, and benefit from, the craft sector. The economic and sustainable utilisation of the nation's natural resources is promoted. The use of locally available natural resources reduces reliance on foreign exchange for imported inputs, most notably within the traditional craft sector, but also within the contemporary craft sector. Although far less significant than the wildlife and wilderness areas, the craft sector also promotes Botswana as a favourable tourist destination, which in turn creates more national income, foreign exchange earnings, social discourse and sharing of cultures.

11.3 JUSTIFICATION FOR A POLICY OF SUPPORT FOR THE CRAFT INDUSTRY

The benefits summarised above highlight the craft sector's contribution to Botswana's four development objectives: Rapid Economic Growth, Social Justice, Economic Independence and Sustainable Development (GOB 1984; MFDP 1991, 1997). The craft sector also directly enhances specific strategies found in the current development plan (NDP7) including: 1) diversification of the economy, 2) creation of employment opportunities and 3) promotion of rural development. This study has also shown that most aspects of the craft industry are financially viable and competitive with other small-scale activities in this regard, and place no drain on the economy. However, while other sectors receive support to enhance their potential and to expand their reach, the handicraft sector is often ignored or considered unworthy of support (Dunn 1994; Kuru 1997b).

The primary example of this unbalanced support can be seen by looking at the agricultural sector. As noted by Perrings (1988:10), Dorloechter (1989:50), Sunny (1992:3) and Masire (1993:5), the droughts of the 1980s and 1990s has made a mockery of the possibility of agricultural-based rural development and food self-sufficiency. Given a finite agricultural base, low economic growth in rural areas, and expanding human population, the employment gap will widen and rural incomes will become further depressed (Perrings 1988:9; Tlogelang 1992:2&4). The rural economy and informal sector will, however, have to absorb increasing numbers of new entrants to the workforce. If food security and employment generation, especially in rural areas, are considered important by the Botswana government, then employment-oriented development strategies and support for rural industry diversification are needed (GOB 1976, 1984; Chuta and Sethuraman 1984:4; MFDP 1991:259; Tlogelang 1992:3; Cox and Healey 1998:4). Rural people must look elsewhere to supplement income from agriculture and "the future well being of the people is particularly tied to the successful performance of other sectors of the economy" (Sunny 1992:4).

Despite these factors, welfare payments to the rural poor in Botswana have been largely delivered as agricultural subsidies or grants (e.g. ALDEP and ARAP) (Tsie 1996:605). The most important implication of this is that, except for direct drought relief, the rural poor have to farm to benefit. Disentangling the effects that these programmes are having on the rural economy is vital, because they are locking rural people into agricultural practices, which are possibly unsustainable, and inhibiting the reallocation of resources (Perrings 1988). In general, rural people have concentrated on agricultural work because of the complex package of incentives provided by government. However, available evidence shows that direct and indirect transfers to the agricultural sector have never furthered the government's objectives of food self-sufficiency, market production, or rural employment (Perrings *et al* 1992). Because traditional (and most contemporary) handicraft production is small-scale, labour intensive, uses very little capital and is not affected by drought conditions, it inherently suits employment generation and rural development strategies. If the craft sector and other small-scale, non-farm activities were given support along with the agricultural sector, more profit could remain in the hands of the producers, their families and their communities, thereby extending the prospects for individual and community development. "The incomes of the very poor are so low

that even a modest further allocation of resources in their direction ought to make a significance difference to their standard of living" (GOB 1982c:6).

Furthermore, although more economic research is needed, in most cases it appears that the cost of subsidising the handicraft sector would be less than the cost of providing welfare to handicraft producers. In 1992/93, only P260,000 was spent by government in the Ministry of Commerce and Industry's Training and General Support Fund (TGSF) on all types of small-scale manufacturing projects (Sibanda, pers. comm., 1993). This is a small amount of money compared to the various welfare and drought relief programmes run in Botswana (as noted in Chapter 9). Two specific examples can be cited.

Over a five-year period in the 1980s, Gantsi Craft was given a total of P109,228 in support assistance, with 23 percent of this from various Botswana government sources and 77 percent from overseas donors (Terry 1988d:17). Inflated to 1990 prices, this amounts to an average of P33,000 per year for vehicles and vehicle maintenance, petrol subsidies, a new retail shop, miscellaneous equipment, working capital (to buy crafts with cash rather than on consignment) and an evaluation study. All of this support was invaluable for the expansion of Gantsi Craft's marketing activities to reach 600 remote area craft producers. If Gantsi Craft did not exist as the main link between the producers and the market, many if not all, of these producers would almost certainly be on some form of welfare support from the government. For instance, if all 600 producers participated in the Labour Based Relief Programme, receiving an average of P163 per annum, a total of P97,800 (in 1990 prices) would have been needed. This is three times the total amount distributed to Gantsi Craft by all donors, and more than 12 times the amount the Botswana government spent on Gantsi Craft in one year. If all 600 producers had to be on destitute payments, receiving an average of P540 per annum, the amount paid would equal P324,000 (MFDP 1991:389). This is 43 times more than the amount the Botswana government spent on the producers by supporting one craft marketing organisation.

The second example is that, in 1990, a typical two-week basketry upgrading course conducted in Ngamiland District by a local expatriate consultant for 20 basketmakers cost P6,700 (including the consultant's fees and expenses, course expenses and food for the

participants).[1] These courses help basketmakers to improve the quality of their skills and products, and effectively double or triple their income from basketmaking. If these same 20 producers were put on destitute welfare, rather than earning money from crafts, the cost to the Botswana government would be a total of P10,800 per annum. This is 1.6 times the cost of one training course, which has a long-lasting impact on income-generating abilities.

Finally, government's policy in which certain urban areas (e.g. sections of Francistown and Selebi-Phikwe) are targeted and developed to encourage investors to create manufacturing/factory employment opportunities (GOB 1984:6; Salkin, pers. comm., 1990; MFDP 1991:166), must be balanced with its policy to support rural industry diversification and to create income-earning opportunities in rural areas to reduce rural to urban migration (GOB 1984; MFDP 1991:171). Any support to the formal craft sector in those targeted urban areas would be in line with the first policy, while support to the whole rural craft sector would be directly in line with the latter policy.

Government should note the handicraft sector's financial and economic viability and its capacity for employing significant numbers of the 'unemployable', especially those in rural areas, and then provide suitable support to enhance its potential. Specific handicraft policies and coordinated development strategies are needed to influence the growth of the handicraft industry.

11.4 SPECIFIC POLICY IMPLICATIONS

11.4.1 Introduction

Policy can be defined as official statements or measures introduced in the pursuance of a definite course of action or strategy in light of given conditions to guide and determine present and future decisions (Allal and Chuta 1982:5). Although general policy and national-level strategies exist in Botswana for rural development, industry and trade, tourism, and natural resources, only three aspects of the policies are specific to Botswana's craft industry.[2] Long-range plans for the craft sector have been discussed

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[1] Taken from actual basketry upgrading course records conducted in 1990.

[2] The National Policy on Economic Opportunities (GOB 1982c) only states that "Botswanacraft should extend its scope" (in Recommendation 6.30). If taken in more general terms, this policy implies that

and presented on one or two occasions, but never followed through. The present idea of 'let the craft sector take care of itself' is not sufficiently effective because so much more potential exists for its development. Any consistent promotional and development support for the whole sector would yield powerful results, as shown by the impact that specific (but very limited) development activities have had on the basketry and Bushman craft sub-sectors, over the past 29 and 17 years, respectively.[3]

Two factors have probably led to the absence of specific policy formulation for crafts. First, the dynamics of the sector have not been well understood, which has led to a deficiency of authentic debate on specific issues relevant to policy formulation, and has further hindered the development of strategies and plans for improving the sector. Second, the small size and isolation of many of Botswana's craft production units and individual producers have made it almost impossible for them to influence government policy. The findings from this thesis result in a variety of policy implications and

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all aspects of handicraft development and support should expand. Botswanacraft, in fact, after 1987 reduced its scope in promoting and developing Botswana crafts. Then in 1992, it changed from being a parastatal to a private company, and no longer promotes only crafts from Botswana, but rather sells crafts from all over southern Africa. Overall, very little support has been given to the sector (Dunn 1994; Kuru 1997b). The Industrial Development Policy (GOB 1984) goes a bit further by mentioning in point 31, that "another factor to be considered in promotion of export industries is the further development of indigenous crafts and products" and by suggesting that there should be further development of linking industries which provide remote and informal sector producers with access to tools, raw materials and market outlets. This policy point also recognises the potential salutary effects of this 'indigenous' sector, including: important source of income to rural people, diversification of the economic structure and source of foreign exchange earnings. The very recent Policy on Small Medium and Micro Enterprises suggests in Recommendation 14 that the proposed 'Small Business Council' should "investigate the potential for strengthening those communities which already have developed skills in manufacturing crafts..." by assessing whether fragmented groups of small manufacturers can be assisted to network to address common problems and exploit market opportunities more effectively. Under this recommendation, government accepts the need to provide marketing assistance to small producers, but feels that "it will be important to learn from past experience in order to formulate sound marketing strategies" (MCI 1999:24).

[3] For example, the market for the basketry sub-sector is quite good, because support and promotion has been provided since 1970, and emphasis has been placed on high quality and excellent designs over all those years (Dunn 1994). In Etsha, these relatively steady activities have caused basket purchases to increase from P1,800 in 1970 (Terry 1984a:61) to P95,000 in 1991, representing an increase in income in real terms of 700 percent over 20 years. As another example, in 1982/83 Gantsi Craft paid out P1,673 in cash to 96 producers working with beads and skins, and by 1989/90 those figures had increased to P94,000 for 500 producers (Terry 1991b:25), an increase in real terms of 2,750 percent over eight years. By 1998/99 cash amounts to producers rose to P280,000 (Gjern, pers. comm., 1999). This is not to say that the situation is perfect. More efforts are still needed in the areas of increased prices to the producers, and natural resource management and sustainability. For too long the basketry sub-sector and the basketmakers have effectively subsidised the other craft sub-sectors, because prices have always been low to the producers and markups high for the baskets. In another example outside Africa, for Thailand from 1982 to 1987 there was a 300 percent increase in the value of craft exports after the Thai government set aside money for various promotional and developmental activities support of the craft sector, such as training programmes, seminars and exhibitions (Parnwell 1992:11).

strategies. While some of the ideas have been stimulated by policy suggestions from other countries,[4] most are derived directly from Botswana producers and marketers. Further efforts should be made to create opportunities for their voices to be heard. Commitment and determination by political leaders and policymakers are needed to ensure that the development policies are actually formulated, and that there is no gap between the formulation of policy and action (Creemers 1997:5; Cox and Healey 1998:4).

The potential for expansion of the handicraft sector in Botswana depends on the interrelation between production and marketing, and therefore, both supply- and demand-orientated policies and strategies are needed (Chuta and Sethuraman 1984:4; Hansohm and Shiimi 1995:27). Other specific policies are needed for the interrelationship between culture and crafts, and tourism and handicrafts, as well as for the natural resources used in the handicraft industry (The Craft Center 1996). When possible, policies, plans and programmes should be formulated to address the needs of specific craft sub-sectors and geographic areas. Although there is a myriad of policies and strategies that could be developed for the craft sector, only the main ones will be mentioned here.

11.4.2 Key Policies Related to Production and Marketing

The key policies should focus on four areas: 1) reducing the cost of developing and marketing handicrafts, 2) raising quality levels of existing products, while also, developing new products, 3) ensuring stable supply and 4) ensuring a stable market. All four are crucial because they will generate more net income for the producers, which should be the primary aim of any handicraft development/marketing programme in Botswana, and ensure a sustainable industry.

Policy area 1: reducing the cost of developing and marketing handicrafts

The first policy area, which is the most crucial, can be addressed through support and subsidy measures. Since the craft industry is economically viable, subsidies are justifiable to ensure that financial incentives continue to exist for producers and marketers. By subsidising certain aspects of the craft industry, greater proportions of

[4] Some of the literature which touches on policy formulation for the craft sector includes: Ela undated; Logsdon and Glover undated; ICA 1977; Anon 1981c; Bouchard 1981; Dhamji 1981; Hughes 1981; Chuta and Sethuraman 1984; Gupta 1984; IAE 1985; Ndjonkou 1986; Arnold *et al* 1987; Jones 1988; Pye 1988; de Kadt 1990; Parnwell 1992; Townson 1994; and The Craft Center 1996.

income can remain in the hands of the producers, their families and communities. Areas that could be most easily subsidised include: 1) transportation (especially for product collection and purchasing, but also for raw material collection and marketing), 2) design and skill upgrading, and business training and 3) various other marketing costs, such as the production of informational and promotional materials.

Despite the high quality of certain Botswana craft products (e.g. Ngamiland baskets and Bushman ostrich eggshell beadwork), rural area made products lose any comparative advantage they might have because of the high cost of transporting products from the rural areas to the market (Kathuria *et al* 1988:15). Therefore, reduction of transport costs should be considered as the primary strategy when any subsidy/support policy is formulated. At the moment, most craft marketing organisations need to place relatively high markups on their products to cover the high transport costs of getting products from remote areas such as Ngamiland, Ghanzi, Kgalagadi Districts to Gaborone for the retail or export market. This suppresses the purchasing prices by marketers to producers. If basic transport costs, such as petrol or vehicle services, could be subsidised by government or covered by NGOs then craft marketing organisations could lower their markups and pay out more to individual producers. Alternatively, financial assistance through FAP could be provided to local private sector companies as "linking industries" which provide "a marketing or collection function for the producing businesses" (i.e. the craft producers) (EPU 1989:3).[5] However, this possibility is limited by a five-year cap on FAP assistance to any individual recipient.

After addressing transport, other areas for subsidisation or support should help to reduce the cost of craft development and marketing. Some expenses for skill upgrading, design and new product development training, along with business training, are currently covered under various government or NGO support programmes, but only to a limited degree. Such support needs to be expanded to reach more producers, especially young producers, and to allow for meaningful follow-up (MacKenzie and Taussig 1981:21; Dunn 1994:38; Hansohm and Shiimi 1995:32). The amount of support needs to be increased to permit skilled designers, product developers and expert craftspeople to conduct the training. An

[5] Surprisingly, as far as this author knows, no business has ever received an FAP grant to provide a marketing link to craft producers. There seems to be limited understanding that this is a possible. With the recent addition of service enterprises to FAP, this possibility may become more prominent.

awareness programme around the point that business skills are also a necessity should be introduced, along with making more training available in these skills.

The third area targeted for subsidisation should be certain marketing costs, such as the development of informational and promotional materials. High quality brochures, booklets, posters and hang tags will not only add perceived value, justify higher asking prices and stimulate sales, but cultivate cultural awareness and appreciation as well, and promote tourism (Ela undated:41–42; Hughes 1981:68; Buzan 1996:14). Documentation should include both background information on the materials, techniques, design, etc., and on the master craftspeople themselves, including the amount of time and skills needed to produce fine quality pieces. The information should also convey benefits to the purchaser. In this area, various parties involved in anthropology, education, culture, small-scale businesses and tourism could come together and provide coordinated support.

Policy area 2: raising quality levels of existing products and developing new products

Simultaneously with cost reductions, the second main policy objective of product quality and diversification needs to be addressed. To gain some comparative advantage, high quality must always be stressed and, as much as possible, Botswana's craft sector should aim for the top end of the market, selling items as art or collectors' pieces. In general, African crafts are not price-competitive with Asian utilitarian products (Hughes 1981:67), and Botswana crafts must have a quality and uniqueness that surpass mass-produced crafts from other southern Africa countries. These qualities must be evident to the buyer if the crafts are going to sell well (Logsdon and Glover, undated:105; The Crafts Center 1996). Although many baskets and some Bushman beadwork already have this advantage, the quality of other products needs to be raised to command higher prices.

Most strategies for this revolve around training and skill development (Creemers 1997:4: Ramsay-Merriam 1998b:10). The first strategy involves concentrating on further upgrading of existing skills. The three lowest paying craft categories all fall in traditional skill areas. If quality can continue to be improved, the products can be sold as cultural artwork or art objects and command higher prices, much like the American Indian baskets.

The second strategy entails introduction of new products by altering traditional products without substantially changing existing skills, raw materials or techniques. For example, Yei grain storage baskets can be woven with a larger opening and sold as wastepaper baskets or Bushman sieves can be woven with a tighter weave and converted into tablemats. In this way, producers can provide newly-developed, competitive products to the market without suffering from 'down time' because they will already have the basic knowledge to produce the new crafts. Both of these strategies should use existing skilled local producers as trainers with support from trainers who are aware of the current and likely future trends of the commercial market.

The third action should concentrate on the introduction of new skills and products in areas where no products exist or where the existing products show no prospect for upgrading. These new products should be different from existing products to fill a different market niche. Before any new products are introduced, feasibility studies should be conducted, including market analyses and availability of raw materials and technical expertise. Finally, if economically feasible, efforts should be made to introduce some diverse contemporary craft training and production into areas where marginalised minorities predominate, because work in the contemporary sub-sector appears to generate higher incomes than work in the traditional sub-sector. As this research has found, the higher paying, contemporary craft sector is virtually the exclusive preserve of the Tswana majority tribal groups. A balance is needed.

These training strategies for Botswana producers dovetail with two of the three training approaches suggested by Harper (1989:182). Harper's "Type B" is aimed at encouraging participants to operate more effectively and profitably, while "Type C" is directed at disadvantaged groups to empower them to enter the informal sector.

In addition to training, three other ways to tackle the policy objective of improving quality can be suggested. Currently the basketry sub-sector purchases baskets using a tiered pricing system, with fine quality being rewarded with the highest prices. Other craft sub-categories should incorporate the same system into their purchasing programmes. Along with quality training for producers, the public needs to be educated on which elements define quality (Ela undated:41–42). Many people ask what constitutes a high quality basket. Although quality points have been documented and discussed with producers in

training courses, oddly enough this has never been developed as a marketing strategy. Botswana should also devise a handicraft promotion policy that includes a system of quality standards and labels (Bouchard 1981:62).

Just as the policy area of support and subsidisation should generate a greater share of the profit for producers, the policy area related to quality improvements should lead to increased income levels, because producers can receive more money for the same amount of work. For example, it takes the same amount of time to make a high quality basket as a poor quality one, but the high quality basket can fetch two to three times the price.

Policy area 3: ensuring stable supply

Excepting the situations where a backwards-sloping supply curve is apparent,[6] increased incomes should also lead to a more stable supply, which is the third policy area to be addressed. For example, during a good, busy agricultural year not enough baskets are woven in Ngamiland because the women are too busy farming. If the prices to the producers were raised and consistent purchasing guaranteed (because of the availability of high quality baskets) then some women might concentrate on weaving and hire others to do their agricultural work. If women were paid more for their baskets, so that their weaving time was worth more than the wage given to them under the Labour Based Relief Programme (LBRP) for raking gravel roads, may be they would not drop weaving for the perceived security of a LBRP job. Similarly, if training was expanded so that more women could be producing fine quality baskets, which are in high demand, supply could increase and become more stable. Equally, youths should be targeted for training so that the pool of craftspeople does not shrink.

Consistent supply of fine quality and diverse products can lead to a more stable demand for handicraft products, which can in turn improve the supply situation because purchases from the producers would be assured. For some countries, not breaking links with local traditional markets is particularly important, because they are the regular markets for crafts (Dhamija 1981). However, this is generally not so in Botswana today. The local,

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[6] On a few occasions in Ngamiland when prices have been raised across the board, a few basketmakers have produced less baskets, because some women tend to work towards a set amount of money that they need Once they earn that amount, they stop producing.

so-called traditional market for Botswana crafts has not been very significant, because of Botswana's small population and obvious preference for the cheaper and stronger South African mass-produced utilitarian products, rather than the handmade craft items (GOB 1984:4; Tlogelang 1992:1).

Policy area 4: ensuring a stable market

Because of this trend, the fourth policy area should address stabilising and expanding the market by specifically encouraging craft production and market access for the following markets: expatriate residents, the local urban upper-class, tourists and exports (Rutten 1990; Falconer 1991; Townson 1994:61). To safeguard a stable demand, financial and technical support is needed to undertake market research. This is not something that producers can be expected to know about, nor do they have the income to undertake market research. The market needs to be continually assessed, feedback provided to producers (which also costs money considering the widely-dispersed producers in remote areas), and products developed and refined accordingly. In a full circle, any expansion of these markets can further increase demand, employment and incomes.

If these four main policies and their associated strategies are implemented effectively, it should help to achieve the ultimate aim of the craft sector: greater incomes to those involved. Specifically, improvements in the present situation should occur, so that certain craft sub-sectors (e.g. basketry and Bushman beadwork) can generate income commensurate with the level of quality and effort invested, and those involved (i.e. the women, tribal minorities and rural dwellers who are making the quality crafts) can obtain the benefits they deserve.

11.4.3 Policies Connecting Crafts to Other Sectors

Because specific policies and strategies are needed for the interrelationship between culture and crafts, tourism and handicrafts, and the natural resources used in the handicraft industry, they are suggested individually as follows:

Culture and handicrafts

From a narrow economic point of view, providing assistance to preserve and encourage certain traditional crafts may be unsound. However, from a broader economic perspective

that includes cultural values (i.e. society's willingness to pay for culture), cultural preservation is desirable and subsidies are perfectly legitimate. Specific policies and strategies for the preservation of craft products and skills, in which national culture is embodied, should be formulated. Some examples of traditional crafts that should thus be encouraged include the Mbukushu *kandimbe* pottery covered with woven fibres, Mbukushu *dishukeka* wigs, Mbukushu and Yei beaded aprons and skirts, much of the Bushman beadwork made with extensive amounts of glass beads, and traditional Tswana pottery.

Research and documentation on the cultural aspects of handicrafts should be supported. Promotional and educational campaigns should be developed for school children and the general public. The written and photographic documentation of craft artifacts at the National Museum in Gaborone needs to be improved. Master craftspeople should be recognised as national cultural resources, through more exhibitions and documentation that give full recognition to the person behind the product.

Tourism and handicrafts

Four policy measures related to the handicraft sector could be incorporated into tourism policy. First, research should be supported on the interrelationship between crafts and tourism to increase the understanding of these two areas, optimise the image of Botswana and enhance the impact (to both producers and tourists). Second, financial and technical support should be supplied to develop additional brochures, information documents and booklets that promote handicrafts and cultural activities as part of the Botswana tourism package. Third, craft production demonstrations, exhibitions, fairs, markets and 'traditional villages' should be encouraged, promoted and supported in tourist areas. Finally, as a matter of policy, government should publicise employment figures, both direct (120) and indirect (5,000), to give planners a full picture of the importance of tourism-related employment opportunities from the craft sector. These figures should be updated regularly, along with more research into the multiplier effect generated by the handicraft sector.

Natural resources used in the handicraft industry

Existing policy emphasises that a balance should be created between using the environment for economic development and preserving the environment for future

generations (MFDP 1991:93). This policy implies that strategies are needed to ensure that resources are used sustainably while optimising use values. Lacking other information, one can only assume that this is the policy to follow. However, at the present moment, the two sectors are largely pulling in different directions. Those working directly in the craft field are often trying to maximise use values without looking at sustainability. On the other side, the natural resource proponents, especially in the wildlife sub-sector, are concentrating on preservation without fulfilling the policy that natural resources should be used for economic development (see Hitchcock 1999:24–25).

As is beginning to happen in other countries (Cunningham 1998:47; Vuetilovoni and Cortesi 1998:11), for Botswana also, a more extensive campaign is needed to ensure that craft producers, and other users of craft natural resources, are fully aware of their responsibilities surrounding resource use and the effects of improper or proper utilisation. More opportunity is needed for producers to discuss and make decisions on issues concerning their own livelihoods. Producers and other resource users should be mobilised and helped to form the appropriate bodies (such as community institutions) to manage the craft sector's natural resources pro-actively. Craft development organisations, and interested and capable marketing enterprises should be assisted in any effort they might make to work alongside the producers in natural resource management. Simultaneously, another awareness campaign should be initiated for those working in the natural resource sector, especially wildlife, so that all parties understand the existing policies on the economic utilisation of natural resources. As a start, Department of Wildlife staff could receive information on these issues and policies.

Any discussion on policy formulation for natural resources used in the craft industry needs to address issues related to land rights and open access. As noted in Chapter 9, the current open access situation for most plant and some wildlife resources is creating resource over-utilisation problems in some areas. Common property management systems that allow for profitable use along with sustainability must be developed to give users incentives to manage their resources successfully. To empower the 'local' users of any given area, policy is needed that allows for user rights, including denial of access to resources to people outside their area.

11.5 INSTITUTIONAL STRUCTURES AND THE SUSTAINABILITY OF THE CRAFT SECTOR

In order for the above policy implications and any resulting policies to become more than words, actions are needed to ensure an adequate supply of financial and, probably most importantly, human resources, such as skilled, experienced trainers, designers, product developers and marketers. Few experts in craft development and marketing are available in the government extension services or at the individual production unit level, so more people are clearly needed.

As mentioned throughout this thesis, relatively little support has been given to the craft sector over the past three decades, with much of this provided via international donors and expatriate volunteers to parastatal or non-profit NGO marketing organisations. With the continued success of Botswana's economy as described in Chapter 3, several of the volunteer organisations have closed their programmes in Botswana in the 1990s to divert their support to more 'needy' countries. Along with this decreased access to skilled expertise comes the assumption that less donor funds will be available to Botswana in the next decade.

This future scenario leads to the question of sustainability, but it is all a matter of perspective. The complete collapse of Botswana's handicraft sector is not likely considering that almost 60 percent of the marketing outlets are run by the private sector. The private sector will presumably continue in its role as marketing agents, but craft development and expansion would be negligible. The General Manager of the now privately-owned Botswanacraft feels that "...unless the government is prepared to get involved in handicrafts training and promotion, the industry has little future" (Dunn 1994:38). The underlying perception that only donors or volunteer organisations can provide the necessary development support must be changed. Considering the benefits accruing from the craft sector and its economic efficiency as described in this thesis, the Botswana government should consider stepping in to fill the role of providing the necessary support to the handicraft sector. Government support for craft development, promotion and marketing should be seen no differently from its support to large-scale industries, such as the beef industry and more recently the vehicle assembly industry. The relatively small subsidies as suggested above can be seen as a sound investment.

The recommendation that government should provide support should not imply that government should be running craft development programmes or marketing organisations. The belief in government that government should act as a facilitator and not an implementer still applies here.

The first strategy should be the strengthening of existing organisations, especially the district-level marketing organisations that collect and sell products for producers in their area, which includes the various NGO craft development and marketing organisations and the growing number of district museums that run craft shops. This goes along with the recommendation in the new policy on Small Medium and Micro Enterprises (SMME) that "cluster development" and "local centres" should be encouraged for the "fragmented groups" of craft producers in rural areas, and that "it is important to learn from past experience in order to formulate marketing strategies" (MCI 1999:24).

The second strategy, which should not be seen as an alternative, but rather complementary to the first one, should look at coordination because dealing with the elements of demand, supply, marketing, training, etc. separately, often yields poor results. The activities of different organisations, institutions and government departments engaged in craft-related development and promotion should be encouraged and coordinated nationally to avoid gaps, duplication and dissipation. As has been suggested in the literature for at least two decades for other countries (ICA 1977:5, ILO 1982:8; Jones 1988:66; MCI 1992:2; Parnwell 1992:18; Terry *et al* 1994), a new institutional structure is needed in Botswana to ensure such a coordinated and integrated approach, to tackle issues and constraints simultaneously, and to strengthen spatial and sectoral linkages. A specific institutional structure for handicrafts, which recognises the sector's specialised nature, will ensure specialised expertise and advice for policy and programme formulation and implementation. This is where the new SMME policy (MCI 1999) seems to fall down because it does not recognise that there is a difference between craft production and other micro- and small-scale activities. The policy suggests that "the micro-enterprise sector, often referred as the informal sector,"... "is most often geared to the small locality or even small area in which they are located" (MCI 1999:2), seemingly forgetting about the large number of craft producers who produce for the urban and export market. However, the SMME policy is sufficiently vague, allowing for creative implementation of the policy statements and suggested strategies.

To provide coordinated development, the idea proposed at least twice over the past three decades, of having a national handicraft development and/or marketing body, should be explored again. A craft development institution is needed in Botswana to supply the financial and technical support for design and product development, natural resource management, cultural aspects and any necessary research.[7] Support could also be provided to the same organisation to facilitate certain aspects of marketing. Preferably, support should be provided to a separate national craft marketing body that would work closely with the development body (as in the example model in this thesis). The proposed Small Business Council as suggested in the new SMME policy may be in position to explore and assess the various institutional possibilities, with this objective fitting in perfectly with several of its suggested Terms of References, especially "to develop proposals for new projects and programmes to strengthen SMMEs (MCI 1999:18). To do this, it is suggested that another "Standing Committee" should be added to the Small Business Council which would look after the particular needs of the handicraft sector (MCI 1991:21).

11.6 FOUR CASE STUDIES: THE IMPACT OF POLICY ON A NATIONAL MARKETING BODY AND THREE UNPROFITABLE PRODUCTION UNITS

This thesis establishes that the craft industry is economically viable and worthy of support, and suggests that it would be good policy to provide direct financial support for rural craft development and marketing. Thus, this section examines various support measures, which could be given to a national craft marketing body, that would reach many independent rural producers. To determine which measures would ensure financial

[7] Support of this kind was once specifically suggested in the form of a National Handicraft Development Association through a project proposal (MCI 1989), as described in Chapter 3. Funding required to get an organisation like this started and running was P261,000 for a two-year period (or P144,659 per annum, at 1990 prices). The funds covered the cost of a local coordinator, officer manager and assistant, general office expenses, one vehicle, information and promotional materials, and craft development programme expenses for two years – all that was needed to supply a basic support and development service to the handicraft sector. Although keen interest and support was given to the project at the time, the final lack of commitment by the government to procure funds meant that nothing came of it.

viability along with economic efficiency, some sensitivity analyses have been undertaken on the model for the national marketing body (first described in Chapter 7).[8]

The findings also suggest that it would be good policy to give direct financial support to production enterprises that are economically sound. For Botswana, sound financial and technical advice should be provided to the loss-making production units before direct subsidies are given. For those enterprises that are neither financially nor economically viable, advice can be provided to see if they can be turned around; however, direct financial subsidies should not be considered for those that cannot be made economically efficient. If a national craft development body existed, one of its services could be the provision of financial and economic analyses. An example of this type of advisory service is given here. Sensitivity analyses have been conducted on the three unprofitable craft production categories of jewellery, pottery and miscellaneous craft products to look at possible ways of redressing their poor financial situation.

The marketing cost-benefit model presented in Chapter 7 assumes that a donor organisation or government provided the initial fixed and moveable capital requirements of P247,680 and that a volunteer organisation provided the salary and expenses of a volunteer manager, but that all running costs are funded by the profit generated from sales. If the initial support had not been provided, the organisation would be making an even greater financial loss each year as it paid off the original loan and the salary of an expatriate manager. The model indicates that P325,000 in cash is paid annually to an estimated 2,000 craft producers, and 14 people have formal jobs because of the enterprise, but the organisation shows a financial loss of P54,175 per annum and a NPV over ten years of -P358,381. On the other hand, the model marketing enterprise is economically very efficient with an annual GVA of P120,377, an economic NPV of P279,281, and an ERR of 21 percent. All of these figures suggest that the organisation could become financially viable with only a small amount of financial support. With even more support,

[8] Sensitivity analysis is an analytical tool to test systematically what happens to the profitability of an enterprise if events differ from the original estimates. A sensitivity analysis is conducted by varying one element or a combination of elements and determining the effect of that change on the outcome, most often on the profit level of the enterprise (Gittinger 1982:498). For this research, all the sensitivity analyses have been conducted for a ten-year period of operation.

crafts could be purchased from additional rural producers, or those producers currently being served could receive a greater share of the net sale price.

To discover what measures should be implemented, five different sensitivity analyses (S1–S5) were carried out on the marketing model:

S1. No annual subsidies were included, but the 80 percent markup on the craft products was increased to a 100 percent markup, with the assumption that the products could sell at a higher price. This change resulted in a profitable organisation, with an annual net cash income of P10,825, and a financial NPV of P50,376, FRR equal to nine percent, economic NPV of P728,914 and ERR equal to 42 percent.

S2. As above, but the assumption is that products at higher prices could not be sold, so the purchase prices to the producers would have to be reduced to allow for the 100 percent markup that could lead to a profit. This action still resulted in an annual net loss of P51,250.

S3. This scenario kept the original 80 percent markup and subsidised one activity: the transportation and travel costs of collecting the crafts at P65,000 each year. A profit-making organisation resulted from this action with an annual net cash income of P10,825, annual GVA of P191,887, and a financial NPV of P50,376, a nine percent FRR, an economic NPV of P728,914 and a 42 percent ERR.

S4. By using the same subsidy as in S3, an attempt was made to see if the markup could be lowered from 80 percent to 65 percent, in order to increase the purchase price to the producer by ten percent, and thus giving the producers a greater share of the final sales price (from the original 56 percent to 61 percent). This action resulted in an annual net loss of P19,775.

S5. To have a financially viable organisation along with producers receiving a better share of the final sales, additional subsidies would have to be applied: the original subsidy of transportation and travel costs for collecting the crafts (P65,000) each year, **plus** advertising and promotion expenses (P7,000), product

development (P10,000), transportation costs for marketing (P8,000), accounting fees (P3,000), auditor's remuneration (P6,000) and maintenance/repair costs on the vehicles and buildings (P10,133) amounting to a total of P109,133. These subsidies would allow for a lower markup (80 percent lowered to 65 percent), increase the producers' income by ten percent (P35,000), increase their share of the final sale price from 56 percent to 61 percent and still result in a profitable organisation: annual net cash income of P24,358 and a financial NPV of P143,969, FRR of 14 percent, economic NPV of P831,866 and ERR of 47 percent.

Two scenarios, S2 and S4, result in a loss so they are not worth further consideration. While S1 results in a profit without having to apply any subsidies, market research would have to be done to see if the same quantity of products could be sold at the higher prices. Furthermore, S1 slightly reduces the equitable share to the producers from the original 56 percent to 50 percent.[9] Nevertheless, if the market can stand the higher prices, this is an option worth considering. Any dissenters must be educated to realise that the collection and resale of crafts do cost money and these expenses have to be covered. A seemingly high markup does not necessarily mean that the marketing organisation is making excess profits or cheating the producers.[10]

Scenario S3 provides a reasonable and realistic subsidy: to cover the basic travel expenses involved in collecting crafts. This type of funding could be provided directly by the relevant government line ministry, but as a marketing link between the producers and the market, this scenario also falls under the objectives of the government FAP programme. This scenario, however, does not change the original share going to the producers of the net price realised.

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[9] Only one other study was found that looked at this issue of the producers' share of the final sale price. Taimni (1987:26) notes that in India, the National Handicraft Committee feels that the craftworkers should receive at least 85 percent of the net price realised from the sale of their products. In reality, they are lucky to get even 20 percent.

[10] Some well-meaning people already think even a 30 percent markup is exorbitant. However, even Alternative Trading Organisations, whose markup is considered to be lower than the norm, usually mark up two to three times higher than the original price (The Crafts Center 1996).

In contrast, scenario S5 does change the original share of net price realised from 56 percent to 61 percent and, thereby, increases the producers' income by ten percent (P30,000). It also requires a heavier annual commitment from government (i.e. P109,133 at 1990 prices). In conclusion, scenarios S1, S3 and S5 are each worth considering (as well as a number of other permutations that could be derived by conducting more sensitivity analyses). The relevant policy should then be formulated around the results of further analysis and decision-making.

Turning to the contemporary production unit models, pottery had the poorest performance both financially and economically of all the craft categories. Close examination of the surveyed pottery production units revealed that the productivity of the wage-employed potters was very low (i.e. the number of pieces produced on average, per potter per day, in four production units were .72, 1.0, 3.5 and 4.0). The enterprise depicted in the cost-benefit model for this thesis took the middle ground by using the figure of three pieces per person per day. Even this figure is low considering that most of the pieces are made using relatively quick methods (i.e. thrown on the wheel or made with moulds) or are small pieces like clay earrings, with other workers involved in preparing the clay, firing, packing, cleaning, etc. The employees of one of the existing production units probably cannot solve their production problems by merely increasing the number of pieces they make because their work is not very attractive and generally unsaleable. However, at least two of the enterprises could easily sell more than they are currently producing. The unit that produces poor items could benefit from training in design, new product development and glazing techniques before attempting to increase production. The wage-earning potters in the other enterprises need to realise that greater productivity will generate more profit for their enterprises, which could result in higher wages.

To determine the needed increase in productivity three sensitivity analyses were conducted on the pottery model by multiplying output and the corresponding cost of raw materials by 2.0, 2.5 and 3.0. It was assumed that the other costs would not need to go up with increased productivity. Even with more products, the kiln (when firing) and the truck (when transporting) could be packed more efficiently with no additional expenses. The first sensitivity analysis that doubled productivity resulted in a reduced loss, but the firm still made a loss in both financial and economic terms. The second attempt showed a small financial loss, but a positive economic NPV. The third attempt, which tripled the

raw material costs and output (the latter from three pieces per person per day to an average of nine), resulted in both financial and economic profits: the annual net cash income changed from -P17,069 to P3,238, the GVA from -P7,529 to P16,121, and the FRR became 19 percent and the ERR 44 percent. To 'reward' the potters for their increased efficiency, attempts were made to see how robust the enterprise would remain when the potters' wages were increased. Raising the potters' wages by 50 percent resulted in a small financial loss for the enterprise, although it remained economically sound. The analysis concluded that the potters' wages could be raised by 25 percent (from P2,040 per potter per annum to P2,550) and that the enterprise would remain profitable, both financially and economically.

Similar sensitivity analyses were carried out on the jewellery enterprise model, because the wage-earning jewellers also had low levels of productivity, although not as low as the potters. Three jewellery workshops in the thesis survey were producing, respectively, less than one piece (.75), five pieces and ten pieces per person per day, and would therefore benefit from increased production rates along with some new product designs. Increasing output (and therefore, costs of raw materials) by 20 percent turned the enterprise into a financially profitable one: annual net cash income became P1,578 compared to the original loss of P1,756, while the GVA increased from P3,766 to P7,462. The FRR became 17 percent and the ERR 103 percent. However raising wages of the skilled jewellers by even ten percent resulted in the company showing a financial loss. Another sensitivity analysis revealed that the employees would have to increase their productivity from 20 percent to at least 25 percent before they could expect a wage increase.

It was assumed that the production unit making miscellaneous craft products could improve by introducing slightly lower wages, increased production rates, and higher selling prices for most of the products. Although the wages for these producers are the fourth highest of all craft producers and are surely not warranted at the current low level of productivity (on average 1.08 pieces per person per day), the sensitivity analysis attempted to see how the enterprise could be made financially and economically profitable without having to reduce wages. At the very least, output and raw material costs both had to be increased by 30 percent and sales prices by 20 percent. This resulted in an annual net cash income of P448 compared with the original loss of P2,842, while

the new GVA was P2,266 compared with the original negative figure of P1,360. The FRR changed to seven percent and the ERR 47 percent.

These relatively small changes to the three loss-making enterprises would presumably result in more and better supplies to the market, more profits to be reinvested in the business, more income for the skilled craftspeople and their families, more income to the nation and, hopefully, more pride by the employees in their increased productivity. The main policy implication for craft production units should be that direct financial support should not be given to production enterprises that are unsound in both financial and economic terms. For those enterprises making a financial loss but are economically viable, before direct financial support can be justified, sound analysis and advice should be available in such areas as:

1) Financial and economic assessment and analysis, including break-even analysis, along with realistic suggestions for change, and regular follow-up.

2) Technical support to improve production methods and efficiency.

3) General design and product development training, along with advice on how to test market products.

4) In-house new product development and design advice (specific to each enterprise to avoid competition with other enterprises), including test marketing any new ideas.

Because the provision of direct subsidies and advisory services would require a substantial amount of funds and skilled people, such assistance cannot be given to all producers simultaneously. Any financial and technical assistance programmes from government or NGOs to craft sub-sector areas should follow a 'selective' approach (Allal and Chuta 1982:69; GOB 1984:5; Gupta 1984:90; Hansohm and Shiimi 1995:32). Groups and enterprises should be assessed to see if they meet certain specified criteria in order to receive priority assistance. Such criteria could include combinations of the following factors: 1) greatest socio-economic need along with greatest potential socio-economic impact resulting from any assistance, 2) greatest ability to produce high quality or new products from the assistance given, 3) greatest comparative advantage and 4) growth potential. Production or marketing organisations that have only one or two missing components to make them profitable should be reached first, so that their

operations might be made successful and sustainable fairly quickly once assistance is provided.

During the selection process, an analysis should also be conducted on ways of providing collection and marketing support to areas that have several skilled, but inactive producers because of the lack of market connections (e.g. western Ngamiland, area north of Nata, Kobojango area in the east, and the Mosetlha area traditional potters). Because many producers in these areas are uneducated and female, and have little opportunities for other gainful employment, craft production would be a logical option to encourage and support.

11.7 CONCLUSION

This chapter has summarised the many benefits derived from the handicraft industry in Botswana as revealed by this research. From this, the first two objectives of the thesis have been addressed. The original belief, that the handicraft sector has a positive impact on the individuals working in the sector, and their families and communities, has been verified. Furthermore, the sector clearly provides positive economic, social and cultural benefits to the nation of Botswana.

The third objective of the thesis was to compare geographical variations within Botswana by testing two hypotheses. The first hypothesis stated that all the benefits for individual producers and production units are greater in rural areas than in urban areas. After examining various aspects and using several analysis measures, the overall evidence suggests that the hypothesis is correct. Seven out of nine different aspects related to the financial impact of the craft sector on individual producers, their households and the production units indicate that benefits are greater in rural areas than in urban areas. Similarly, except for one aspect (effect on community development), the hypothesis that greater social and cultural benefits derived from crafts are found in rural areas than in urban areas has been generally proven to be true. The second hypothesis was related to the impact of market conditions in different parts of the country. All the evidence from this study confirms that more benefits to individuals and their households are available in areas with consistent purchasing by craft organisations or by a regular stream of tourists.

The fourth objective, and associated hypotheses, was to compare the financial, economic, social and cultural value of the handicraft sector with other non-farm, small-scale,

income-generating opportunities in Botswana. The hypotheses proposed that benefits would be greater for craft producers than for non-craft producers, and benefits to the nation would be greater from the craft sector than from the non-craft sector. The study concludes that the social and cultural benefits of the craft sector are greater for individual craftworkers than non-craftworkers, but that both sectors provide similar financial benefits. Regarding benefits to the nation, this study has shown that both sectors add financial and economic value to the nation but the non-craft sector provides more income overall due to its larger size. The non-craft sector has higher average profitability, but the craft sector is more economically efficient. Notably, this is the only hypothesis tested in this thesis that proved to be partially insupportable.

Policy implications have been determined and discussed in this final chapter, and therefore the fifth and final aim of the thesis has been met. Although it is recognised that policy formulation is a lengthy process needing time and commitment, lasting changes and substantial benefits will only come with a realistic and well-defined set of policies and strategies, and the programmes to implement them. Ideally, craft production should be seen as one of several income-generating options available for individuals in Botswana, so that they can judge the time, effort and money invested in craft production against the potential rewards gained from crafts compared with another activity.

This positive picture of the handicraft industry, which has been cited in the limited literature and reinforced by this research, should help the Botswana government and non-government support organisations to recognise the financial, economic, social and cultural value of craft activities to individuals, their families, their communities and the nation. Hopefully, this recognition can stimulate debate and policy formulation, and activate a willingness to promote and support the sector in a consistent and coordinated manner. Because most of the information from this research comes directly from the craft producers and the marketers themselves, the results are eminently suitable for informing and influencing policy. If policy formulation along with concrete implementation can occur in the craft sector in Botswana, this reliable income-generating activity can further help to reduce the occurrence of unemployment and poverty, provide a wide variety of psychological and social benefits, and stimulate Batswana's delight in their traditional and evolving culture.

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The Economic and Social Significance of the Handicraft Industry in Botswana

Volume II
Appendices and Annexes

by

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APPENDIX 1.1

LIST OF ACRONYMS

ALDEP	Arable Lands Development Programme
ANOVA	Analysis of Variance
ARAP	Accelerated Rainfed Arable Programme
ASEAN	Association of South East Asian Nations
B/C Ratio	Benefit/Cost Ratio
BCC	Botswana Christian Council
BDC	Botswana Development Corporation
BDS	Business Development Services (Pty) Ltd.
B-MAP	Botswana Management Assistance Programme
BNCC	Botswana National Cultural Council
BNRMP	Botswana Natural Resources Management Project
BOCCIM	Botswana Confederation of Commerce, Industry and Manpower
BRIDEC	Brigades' Development Centre
cc	correlation coefficient
CCZ	Crafts Council of Zimbabwe
CFDA	Communal First Development Area
CI	Crafts International
c.i.f.	Cost, Insurance, Freight
CITES	Convention for International Trade in Endangered Species of Fauna and Flora
CMI	Chr. Michelsen Institute
CORDE	Cooperation for Research, Development and Education
CS	Commonwealth Secretariat
CSO	Central Statistics Office
DBSA	Development Bank of Southern Africa
DCMFA	Development Cooperation Ministry of Foreign Affairs (Netherlands)
DDS	Design and Development Services
DECTA	Developing Countries Trade Agency
DIA	Department of Industrial Affairs
DIB	Department of Information and Broadcasting
d.f.	degrees of freedom

DRP	Drought Relief Programme
DWNP	Department of Wildlife and National Parks
EA(s)	enumeration area(s)
EPF	Economic Promotion Fund
EPU	Employment Policy Unit
ENPV	Economic Net Present Value
ERR	Economic Rate of Return
EU	European Union
FAO	Food and Agriculture Organisation
FAP	Financial Assistance Policy
FNPV	Financial Net Present Value
FRR	Financial Rate of Return
GATT	General Trade Agreement on Tariffs and Trade
GDP	Gross Domestic Product
GNP	Gross National Product
GOB	Government of Botswana
GVA	Gross Value Added (to national income)
HATAB	Hotel and Trade Association of Botswana
HH	household
HIES	Household Income and Expenditure Survey
IAE	Institute of Adult Education
ICA	International Co-operative Alliance
IFS	Integrated Field Services
ILO	International Labour Organisation
IMF	International Monetary Fund
IO(s)	Industrial Officer(s)
IRR	Internal Rate of Return
ISS	Industrialisation Support Service
ITB	Irish Tourist Board
ITC	International Trade Centre
KCS	Kalahari Conservation Society
LBRP	Labour Based Relief Programme
MCE	Molepolole College of Education

MCI	Ministry of Commerce and Industry
MFDP	Ministry of Finance and Development Planning
MLGLH	Ministry of Local Government, Lands and Housing
MLHA	Ministry of Labour and Home Affairs
MOA	Ministry of Agriculture
MSE(s)	Micro- and Small-scale Enterprise(s)
n/a	not available
NADP	Ngamiland Agricultural Development Project
NDB	National Development Bank
NDP6	Botswana's National Development Plan 6
NDP7	Botswana's National Development Plan 7
NDP8	Botswana's National Development Plan 8
NGO(s)	Non-government Organisation(s)
N/K Ratio	Net Benefit-Investment Ratio
NPV	Net Present Value
NRMP	Natural Resources Management Project
ODI	Overseas Development Institute
OFSG	Oxford Food Studies Group
p	probability (in statistical validation)
P	Botswana pula (At the start of study: P1.00 = US$0.47 = £0.28)
PDL	Poverty Data Line
PSUs	primary sampling units
R	South African rand
RAD(s)	Remote Area Dweller(s)
RADP	Remote Area Development Programme
RIDS	Rural Income Distribution Survey
RIIC	Rural Industries Innovation Centre
RIP	Rural Industries Promotion Company (Botswana)
ROI	Return on Investment Ratio
SACU	Southern African Customs Union
SADC	Southern African Development Community
SADCC	Southern African Development Coordination Conference

SARCCUS	Southern African Regional Commission for the Conservation and Utilisation of the Soil
SD	standard deviation
SIAPAC	Social Impact Assessment and Policy Analysis Corporation
SPSS	Statistical Package for the Social Sciences
TGLP	Tribal Grazing Land Policy
TGSF	Training and General Support Fund
TIPA	Trade and Investment Promotion Agency
t-value	value of t determined using t-test
UN	United Nations
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNIDO	United Nations Industrial Development Organisation
US$	United States dollar
USAID	United States Agency for International Development
VDC(s)	Village Development Committee(s)
WIBA	Women in Business Association
WMA	Wildlife Management Area
WTO	World Trade Organisation
WTO	World Tourism Organisation
YWCA	Young Women's Christian Association

APPENDIX 1.2

DEFINITIONS OF IMPORTANT TERMS

Throughout this thesis various terms are used which may have various meanings or different shades of meanings depending on the reader's viewpoint. To avoid any misunderstandings, important and frequently used terms are defined here in the way they will be used throughout the study. These definitions are described as is commonly understood in Botswana.

Handicrafts

While there is some variance in opinion as how to define handicrafts, for the purpose of this study **handicraft** or **craft** is defined as follows: "any functional or non-functional product of artistic or ethnographic value, made by hand with the use of simple tools and equipment, with the potential for sale."

Within Botswana, crafts can be classified as traditional or contemporary and be produced in a formal production unit or by producers working informally. The following categories of production are considered as handicrafts:

1. **Basketry**, including all products woven from natural plant fibres and more recently plastic, primarily baskets, but also mats, woven bracelets, sieves, beerstrainers, wigs and fishtraps.

2. **Beadwork**, mainly **traditional jewellery items** as necklaces, earrings, bracelets and hair decorations along with beadwork used to decorate bags, skirts, aprons, tortoise shell 'powder puffs', etc. Materials utilised include ostrich eggshell beads, glass beads, woven palm leaf beads, seeds, pieces of wood (mainly from small branches), pieces of root, leather, sinew, animal hair and commercially made string.

3. **Jewellery**, comprising all items of personal adornment, usually of a purely decorative nature, but sometimes utilitarian and decorative. For the purpose of this study, jewellery in Botswana is considered 'contemporary' even if so-called 'traditional' designs are incorporated, because the techniques utilised have not been used in the distant past. Materials used include sterling silver, gold, brass, copper, bone, ivory, clay, wood, pieces of gourd or ostrich eggshell, semi-precious stones, etc.

4. **Skinwork or 'traditional' leatherwork**, using game skins or domestic skins (i.e. cow, goat and sheep) which are usually tanned using traditional vegetable tanning methods. Includes items such as dancing skirts, aprons, beaded bags, 'powder puff' bags, mats, karosses, hats, cushion covers and hunting set bags.

5. **Leatherwork ('contemporary')**, using domestic skins (i.e. cow, goat and sheep) and game-skins usually tanned chemically or with sophisticated vegetable tanning methods. Includes utilitarian items such as sandals, wallets, handbags, belts and briefcases, plus game trophies, cushion covers, mats and wall hangings.

6. **Carving**, including items carved by hand or fashioned on the lathe or with other simple tools using wood, ivory, bone, horn and soapstone. Items include human or animal figurines, toy vehicles and other toys, drums, thumb pianos, spoons, containers, walking sticks, tool handles, mortars and pestles, stools and *kgotla* chairs.

7. **Weaving**, consisting of 'contemporary' items woven on hand looms using wool, silk or cotton, including tapestries, rugs, bedspreads, tablecloths, tablemats and scarves.

8. **Textile products**, made from fabric using handmade 'artistic' processes, such as silkscreen, batik, potato printing and tie-dye including clothing items, wall hangings, bags and dolls, but excluding sewn products purely of a utilitarian nature such as school and industrial uniforms and ordinary clothing.

9. **Pottery**, comprising all containers and sculptural pieces made from clay and includes both 'traditional' forms such as beer and water pots, and 'contemporary' products such as dinnerware, candlesticks, ashtrays and small animal figurines.

10. **Miscellaneous craft products**, all products that do not fit under the above nine categories, including such 'traditional' items as dance leg rattles, brooms, Bushman hunting sets and repair kits, and 'non-traditional' items such as engraved calabash gourds and cornhusk dolls.

Formal Production

For this study, **formal** means a system of craft production where producers are working together regularly at the same venue. Often the producers are workers in a company that has employed them to produce crafts. The owner may or may not be a producer. The group may be a cooperative or plan to register as a cooperative. Alternatively, the group of producers may be part of a non-profit development project with no intention of becoming registered as a company or cooperative.

Formal producers usually work full-time at craft production, but part-time workers can also be considered formal producers if the time spent working is scheduled and fairly regular. For formal sector producers, craft production is often their only or main source of income. Producers in a formal unit are being paid usually on a wage basis or piece rate system or combination of both systems. Sometimes the producers share equally the costs and the profit of the operation. Individual producers are usually not responsible for procuring raw materials or marketing the final products. The owner, a marketing person, or a designated producer may be responsible for these tasks.

Informal Production

Informal, for this study, can be defined as production with no formal system, that is, generally producers work independently of each other. At times informal producers may be seen working together but, this is usually for social purposes, not for business objectives. The producers do not work together regularly at a fixed venue. Individuals are usually responsible for the procurement of their own raw materials and for the selling of their own products.

For this study, informal producers are 'grouped together' when they are producing similar products, in a contained geographical location, and selling to the same market. Examples of these 'informal groupings' include: Shashe woodcarvers, Shoshong matmakers selling to Shoshong Development Trust, western Ngamiland beadworkers selling to the former !Kung San Works organisation, and Ghanzi District skinworkers selling to Gantsi Craft.

Traditional

A **traditional** craft product or a producer working in a 'traditional' manner is defined as something that has a base in the past and is considered part of the culture or customs of a certain

group of people. As culture is not static, additions or changes may be occurring to that product or working method, but some major element from the past remains. In Botswana, the main products that fit into this description are certain types of baskets, sitting and sleeping mats, utilitarian wooden products, musical instruments, tools, and most Bushman crafts, such as hunting sets and game-skin wearing apparel.

Contemporary

A **contemporary** craft product is an item that has no significant basis in 'tradition' and was not produced in the past. Most major elements -- raw materials, techniques, type of product, use of product -- are new and typically introduced by outsiders. Examples of contemporary crafts in Botswana include dinnerware ceramics, sterling silver jewellery, woven wool tapestries and all cloth textiles. Some of these contemporary products may have 'traditional' designs incorporated into them, but for the purpose of this study they are classified as contemporary.

Urban

Botswana's Central Statistics Office defines **urban** as a settlement of 5,000 or more people, with at least 75 percent of its labour force in non-agricultural occupations. Using this definition, surveys have been conducted in the three urban areas: Francistown, Gaborone and Lobatse.

Rural

By using the above definition, **rural** then would be any area that does not fall under the 'urban' definition. Over 74 percent of Botswana's population lives in rural areas.

Income-Generation Interventions

This study takes the definition of **income-generating interventions** from Hurley (1990:vi) as "development interventions that intervene in the economic aspect of people's lives using economic tools. Such tools are usually small-scale, operating at the level of the community or individual business or cooperative, and may include such things as the provision of capital through grants or loans; savings and credit schemes; training or advice in skills or business management and other support services for small businesses such as assistance with marketing and the provision of temporary trained personnel."

APPENDIX 2.1

PROBLEMS INHERENT TO THE HANDICRAFT SECTOR

Production and Design Problems

- In some countries low labour productivity amongst craft producers leads to problems (Peterson 1984:6).

- In some cases one type or style of craft is replicated in large quantities and the local market ends up saturated. This situation often results in reduced sale prices, even when raw material prices are on the rise (FAO 1991).

- Some craft skills are so specialised that they require years of training or apprenticeships (Dhamija 1981:1), and in some countries there are a restricted number of places in training programmes (Cable *et al* 1986:167). For many countries, the vast majority of craftspeople are able to copy existing designs, but are not able to create new designs for themselves. Many craft producers lack the knowledge to develop new designs or styles of products to adjust to market demand (Nelson 1975:13; Cable *et al* 1986:15; Lee and Terry 1998:23). For example, "The creation of a new idea and the ability to carry it out involves a certain level of self-confidence that seems to be lacking amongst the Tanzania craftsmen" (Berg *et al* 1978:17).

- Producers who are unable to make well-made, high quality items often suffer from severe marketing problems (Weinrich 1973:20; Lewycky 1977:209; Berg *et al* 1978:49; Gjern 1994:11; Cremers 1997:2). Jones (1987:39) sums up marketing problems for craft producers:

> "Most craft **producers** state that their biggest problem is **market**. Most craft **buyers** state that their biggest problem is **production**. Both are right. The problem is that there is no market for poor quality crafts and a supply problem for good quality crafts."

- While design is often the most important element to consider for marketing, especially for the export market, often this is one area that is not recognised and most neglected

(Kathuria *et al* 1988:20). Even when the importance is recognised, Weinrich (1973:22) notes that "there is often great difficulty in getting good designers with the relevant technical mastery, knowledge of world markets and reverence for tradition."

- Because of the specialised nature of the handicraft sector, few planners or programme officers understand the intricacies of these specialised skills and are therefore incapable of providing the necessary advice or creating the appropriate policies (Weinrich 1973:22; Dhamija 1981:1; Loughran and Argo 1986).

- Unfortunately, for some products which require an enormous amount of time, the producer can never be paid directly in terms of hours of work on the product, so unfair prices are paid to producers for their products (Peterson 1984:6; Taimni 1987:24; The Crafts Centre 1996). This situation especially occurs with products having an output which represents a high wage component versus products with a high material component, such as baskets versus sterling silver jewellery. In most countries, if prices were based on a minimum wage, hourly scale, the product would become prohibitively expensive rendering it unsaleable (Nelson 1975:3). For the overseas handicraft market, most African products are not priced competitively in comparison to products from East Asia, India and Latin America (Harrell-Bond 1981:7). Within African countries another problem can occur related to pricing. Rambert-Hounou (1990:113) describes the situation for Togo where producers selling locally place a high price on their product initially to cover the real cost of production. However due to heavy competition, prices are lowered when bargaining to the point of non-profit or even loss, depending on how urgent the craft person's need is for money.

- Lacking sources of finance constitutes one of the major problems for craft producers in many places (Loughran and Argo 1986:49; Rambert-Hounou 1990:113; Terry *et al* 1994:iv). Formal channels of credit are often blocked usually because of the lack of collateral to obtain a loan (Cable *et al* 1986:167). Female producers are often required to obtain permission from their husband or another male relative (Loughran and Argo 1986:49; The Crafts Centre 1996). Poor access to needed credit to buy tools and raw materials leads either to the absence of production enterprises, or the start-up of a business with producers becoming heavily indebted to moneylenders, and exploited by

traders or middlemen (Harrell-Bond 1981:3; Peterson 1984:6; Randrianarivelo 1990:35).

- In some countries, some production workshops use forced and indentured child labour, or have circumstances that force women and children to work under exploitive conditions (Ramsay-Merriam 1996:1, 1998a:4).

- A lack of adequate infrastructure including workshop space, water, electricity and improved communication systems plague many Third World countries (Cable *et al* 1986:167).

- When raw materials are bought in small quantities there can be no savings through bulk buying which would be the case for large firms (Harrell-Bond 1981:3).

- Certain natural resources are under-utilised while others are not being used in a sustainable manner (Taussig 1980:3&24; Terry *et al* 1994:iv; Cunningham 1998; Vuetilovoni and Cortesi 1998:11).

Group Formation and Production Systems

- Many authors (Logsdon and Glover, undated; Berg *et al* 1978; Ndjonkou 1986; Taimni 1987) believe that a cooperative or group system of craft production is the most viable and should be strived for, because groups are more accessible than individuals when assistance needs to be provided. Producers organised collectively can pool financial resources and business experience and share responsibilities (Rambert-Hounou 1990:113). However, even Taimni (1987:26) and Weinrich (1973:8), who advocate the promotion of cooperatives, admit that previous attempts to organise artisans into cooperatives have seldom been successful. Certain authors (Loughran and Argo 1986:8; Thomas 1990) argue that producers' cooperatives can play only a very limited role in the economies of African countries, especially in southern African countries. Regarding the handicraft industry, many types of crafts do not lend themselves to producers working in a cooperative effort. Often the sharing of working space or tools is not needed, so the producers do not perceive a felt-need for coming together (Terry 1991b:9). Family and agricultural responsibilities often limit the time in which

producers are able to meet. Distances between homesteads may prohibit easy access to other producers (Hasberg 1988:17; Terry *et al* 1994:iii). For certain crafts, producers might feel that the returns are not sufficient or immediate enough to justify devoting themselves full-time to the work in an organised group setting (Harrell-Bond 1981:4). In some countries ethnic rivalry or community jealousies inhibit cooperation (Harrell-Bond 1981:4). Certain communities have no tradition of collective effort.

- Craft production groups and cooperatives often lack capable leaders (Peterson 1984:6). The progress of production groups (and individual producers) is often hampered by the illiteracy of the members (Ndjonkou 1986:83). If the stated need of specific producers is to earn more cash, time spent on transmitting leadership skills and the principles of group dynamics may be irrelevant and counter-productive.[1]

- In direct contrast to the cooperative movement, Nelson (1975:3) argues that the best system and the best guarantee of steady employment is the small enterprise run by one person. Because small entrepreneurs have made a personal investment in their business, they want to reduce as many risks as possible, thus the small entrepreneurs are more careful and cautious in the number of people to be employed. In turn, this cautiousness reduces the risks for the people who are employed. Nelson believes that the worst type of handicraft enterprise is the one run by a voluntary agency, stating that the management is usually unskilled and lacks experience, and that the donor funds artificially prop-up the business.[2] Le Roux (1998) believes that NGOs or voluntary

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1 One place in southern Africa where a cooperative effort appears to be working, at least in terms of longevity, is at the Caprivi Arts Centre in Katima Mulilo, Namibia. In 1987 five craftspeople and artists founded the Caprivi Arts Association, not as a production cooperative, but as a group marketing and promotion effort. By 1992, about 70 registered members were taking part on a regular basis in exhibitions, meetings and some training programmes. Members and non-members, alike, sell their products on a cash and consignment basis to the Centre. While some financial assistance has been intermittently provided by donors, the Centre is unique in southern Africa in that it has always been run entirely by black Africans (Nasilele, pers. com., 1992).

2 Nelson (1975:7) elaborates by saying: "Capital assistance is vitally needed in many areas but should only be given on the basis of the real commercial potential of the product being produced. Again no one seems to know anything about product potential, least of all the agencies asked to give money. Failure to do this creates an artificial situation which enhances a dependency relationship rather than eliminates it."

support organisations can only effectively assist craft producers if they have "staying power", that is providing the support for a sufficient period of time to ensure the sustainability of the project.

Marketing and Business Management Problems

- Craft producers often lack business and marketing skills and knowledge, thus leading to poorly run enterprises (Peterson 1984:6; Loughran and Argo 1986:3; Taimni 1987:24; Creemers 1997:2). Individual producers are often not aware of the existence of potential customers or of the needs of existing ones and fail to match supply with demand (Ndjonkou 1986:83; The Crafts Centre 1996; Lee and Terry 1998:23).

- Transportation costs to get products from rural areas to marketing centres is often very high, or transportation is difficult to obtain (Taussig 1980:24; Hirschowitz 1991:18; Terry *et al* 1994:iv; Lee and Terry 1998:23).

- Similarly, some craft projects (more often those run by church groups or the public sector rather than the private sector) do not run the project in a business-like manner. In fact, the actual business of production and marketing may be hampered by secondary welfare objectives (Nelson 1975:2; The Crafts Centre 1996). Some social/welfare/ church groups feel that the money earned from craft production projects must be spent on some other needy cause rather than putting the money back into to the craft project for improvement or expansion or in the form of higher wages to the producers. Nelson (1975:4) feels that these types of groups need to recognise that the steady employment of the producers is in itself a legitimate form of social welfare, especially in areas of mass unemployment.

- Often if development organisations run craft projects, there is the tendency to buy crafts on a consignment/commission basis rather than through direct cash purchases. Weinrich (1973:22) and others feel that "...outright purchase is the only method that should be used. Consignment selling is a carry over from 'middleman' marketing where the risks are borne by the craftsman. The buyer is under no compulsion to exercise his judgment over quality, fitness or extent of demand."

- The advantages of the flexible nature of handicraft production which can allow producers to work part-time or seasonally becomes a disadvantage when attempts are made to produce for an export market (Weinrich 1973:24). Production for an international market must usually be continuous and consistent to be viable (Harrell-Bond 1981:4). Often large sums of money must be tied up in stocking an adequate amount of craft products if exporting is to run smoothly (Weinrich 1973:21). If production is increased to meet demand, often the quality will suffer and then the demand decreases (Nelson 1975:13). Along with the problems of supplying quantity and quality, also comes the problem of being able to supply on the needed delivery date (Anon 1981c:70; Loughran and Argo 1986:35; Jones 1987:39).

- Some countries rush to find an export market for their craft products without fully investigating the internal market either through sales to residents or tourists. Only when the national markets have been fully exploited, should promoters look outside their borders (Dhamija 1981:10; Harrell-Bond 1981:2).

- Other authors disagree with this idea, feeling that the urban and export market is the only hope for producers in increasing incomes through increased demand and better prices (Rutten 1990; Falconer 1991; Townson 1994; van der Linden 1998).

- Some countries' export procedures are heavily bureaucratic and very complicated, virtually making it impossible for the new or small exporter to conduct export activities (Lee 1991:1&8).

- Often there is no available, high quality, promotional or marketing material written to help advertise craft products (Hirschowitz 1991:7; Gjern 1994:11). In many cases the lack of substantial information or data on the craft product and producers hampers any attempt to prepare promotional information.

Coordination

- The craft sector often lacks the following ingredients: organisation, back-up, information, business skills, and sales and distribution networks (Weinrich 1973; Nelson 1975:13; Farine 1988:11; Randrianarivelo 1990:35; Hirschowitz 1991:7).

- For most countries, there is a distinct lack of coordination and communication within the handicraft sector (Weinrich 1973:28: Terry *et al* 1994:vi; The Crafts Centre 1996).

- In some countries, including Botswana, the siting of factory shells and market places is not coordinated. Producers and sellers are not consulted, with the result that some of the production and market places have been abandoned by the entrepreneurs because they were not strategically located (Brand *et al* 1993:282).

To address these common problems among craft producers and craft organisations in developing countries, several elements are needed. These include carefully formulated policies and strategies for better coordination, consistent promotion and necessary support interventions.

APPENDIX 3.1

ORGANISATIONS AND PROGRAMMES PROVIDING ASSISTANCE TO CRAFT PRODUCERS IN BOTSWANA[1]

1. ADVISORY OR TRAINING ORGANISATIONS IN OPERATION AT THE START OF THIS STUDY

1.1. Government Assistance

Botswana National Cultural Council (BNCC) *

An interim committee was in place under the Ministry of Labour and Home Affairs from 1988 to 1992 to revive the BNCC. From this time, it was concluded that the main objective of the BNCC should be "to coordinate and support social and cultural groups/organisations to realise their short-term and some of their long-term objectives." Support has consisted of advisory services and financial assistance in the form of annual grants. While craft organisations are as eligible to receive assistance as theatre or music groups, few seem aware of the BNCC or have tried to access their services. Gantsi Craft does reaps one indirect benefit via the BNCC: cultural dance groups use BNCC funds to buy dancing skirts, etc. from Gantsi Craft (Gjern, pers. comm., 1999).

Botswana Polytechnic's Bachelor of Education Degree in Design and Technology (D&T) *

This institute, which falls under the Ministry of Education, offers a Bachelor of Education Degree in Design and Technology (D&T) catering to people who intend to teach at the junior and senior secondary school level. In theory, the young students who have then received training from the D&T teachers could apply this knowledge to any future handicraft activity that they may undertake. 'Traditional', informal producers would probably never have any contact, but some contemporary, commercial craftworkers such as silkscreen textile workers or silversmiths may ultimately benefit.

Ministry of Commerce and Industry's Industrial Field Services (IFS) *

IFS under the Department of Industrial Affairs of MCI is a government business and advisory service providing technical, management and marketing advice to small- and medium-scale Batswana entrepreneurs. The staff from headquarters and 20 field offices assist in the start-up and improvement of businesses, funding through FAP, and a variety of technical training. Most of the

[1] The organisations marked with * are still in existence at the time of finalising this thesis in 1999.

advice supplied by rural field officers has concentrated on simple business skills, like record-keeping and simple marketing ideas.

While craft producers are included under their mandate, the type and quality of assistance and training capacity vary widely from year to year, depending on the interest and skills of individual officers on the job at any given time. When an officer is interested in crafts, he or she will often provide full concentration to craft producers. Ones with no interest tend to ignore the handicraft workers in their area. Since the start up of this cadre in the early 1980s, none of the industrial officers (IO) seem to have an artisan or craft-related background. While the IO's were usually willing to find people with these skills, they often did not have enough technical knowledge to choose the right type of person. For example, workers at the garment and leatherwork factory estates complain that they know more than the advisor assigned to them.

Ministry of Commerce and Industry's Lekgaba Centre *

This centre, located in Francistown, was started in 1969 by some American volunteers and provided training in fine art, graphic arts, woodworking, ivory carving, metalwork, pottery and printing. In 1975, the project was handed over to the Francistown Town Council and then around 1983 in conjunction with the Serule clay deposits discovery, the centre was taken on by the Ministry of Commerce and Industry.

The centre is now run by IFS and concentrates only on training potters by teaching them drawing, design, decoration, clay preparation, various pottery techniques and business management. Five technical officers run the programmes that consist of six-month beginners courses, follow-up in the workplace, and two- or three-week upgrading courses. Of the approximate 100 students who have gone through training, only five are still in business who were trained from 1983 to 1989, and nine who received training from 1990 to 1992.

The centre's manager feels that the reason for such a high failure rate has been due to the technically trained entrepreneurs' failure to grasp sufficient business and marketing techniques. Not just happy to make pots, they also want to run their own companies rather than hire a business manager. Or if they do hire a business manager, that person starts to steal from them. While these problems might be true, in the opinion of this author, the reason for such a high failure rate stems mainly from the type of product taught. Shapes and styles are acceptable, but the glazing is very

glossy. This final look does not appeal to your average expatriate resident or tourist. While it may appeal to Batswana, it appears that they would rather purchase less expensive, better-made products from South Africa than the heavy one-off pieces that are often the end-product of someone who has been trained at Lekgaba Centre.

Ministry of Labour and Home Affairs' (MLHA) Department of Culture, Registration and Social Welfare Matters *

This department works closely with the BNCC and helps to coordinate performances and celebrations for youth rallies, trade fairs, and national celebrations such as President's Day and Independence Day. This department falls under the office of the Under Secretary for Culture along with other agencies of MLHA, such as the National Archives, National Library Services, and the National Museum, Monuments and Art Gallery. While certain aspects of the handicraft industry should fall under this 'culture' umbrella, little practical assistance or policies have been directed towards craft producers. Plans are underway to prepare a new comprehensive cultural policy during the NDP8 period (1997-2003).

Molepolole College of Education (MCE) *

The Ministry of Education has been teaching art in the secondary schools as a serious, time-tabled subject since 1985. MCE trains people to be art teachers for junior secondary schools, with the first class of teachers having graduated in 1988. Besides the formal courses, MCE runs the Art Apprenticeship Programme that gives the student art teachers the opportunity to work in an art-related field with employees during academic breaks. Handicrafts is one of the subjects taught to the MCE students who will then be expected to teach this subject at the junior secondary school level. Beyond expanding the students dexterity and creativity, this programme helps to keep traditional crafts 'alive' in the changing times of young Batswana.

1.2. Non-government, Parastatal and Private Sector Assistance

Botswana Confederation of Commerce, Industry and Manpower (BOCCIM) *

The umbrella organisation Botswana Confederation for Commerce, Industry and Manpower (BOCCIM) oversees issues and policies related to wages, employment, incomes, labour legislation and matters affecting localisation and training. Specific to entrepreneurs, BOCCIM provides business advice, sponsors a variety of training workshops in skills and management, and administers a scholarship scheme for Batswana to study overseas. A concise booklet, entitled

Business Assistance Manual, providing useful information to the entrepreneur has been published through BOCCIM. All types of entrepreneurs including craftspeople can take advantage of BOCCIM's advice. Around 1990, BOCCIM was instrumental in producing a glossy mail-order/export catalogue of crafts with about ten production units included. This was the first time that an export catalogue of this type has been printed with actual production units represented rather than Botswanacraft Marketing Company alone. Unfortunately it does not seem that the catalogue was sent to the right audience and few orders were generated from the catalogue. BOCCIM also has a Small Business Division that works closely with IFS, Tswelelo (under BDC) and FAP. This division helps to coordinate the activities of the different agencies in order to assist small-scale entrepreneurs better. In addition there is a counselling scheme, called Botswana Management Assistance Programme (B-MAP) in which personnel from established firms give assistance to small-scale member firms.

Botswana Development Corporation (BDC) *

Operating as a parastatal, Botswana Development Corporation (BDC) is Botswana's largest financial institution, mainly providing loans and equity to large non-mineral projects that generate employment opportunities, promote import substitution and utilise local raw materials. The arm of BDC called Tswelelo concentrates its attentions on small- and medium-sized citizen-owned businesses, by providing credit and advisory services. Until recently, BDC owned Botswanacraft Marketing Company, which has been purchasing and promoting handicrafts made in rural areas since 1970. In 1993, Botswanacraft was sold to private, local businessmen.

Cooperation for Research, Development and Education (CORDE) *

Organisational development of producers' groups is CORDE's speciality. A group must become a member of CORDE to receive advice or assistance. CORDE mostly deals with small-scale, rural producers, but also assists formal craft production units like Thamaga Pottery and Baikagi Weavers. Up to 1993, there was a marketing division that provided functional business support and assisted with product development. Now there is no more marketing or technical support to entrepreneurs, rather, CORDE focusses on administrative, organisational and financial management training.

Design and Development Services (DDS) *

Design and Development Services (DDS), run by this author, undertakes the training of most types of craft producers. Short-term courses (i.e. one to six weeks) have been organised under the auspices of various organisations to teach and/or to improve the quality of various craft products, especially basketry, woodcarving, jewellery-making, silversmithing and bone-carving. In the early 1990s, DDS collaborated with Rural Industries Promotions (RIP) and Freehand to implement the first design course for contemporary craft producers to be held in Botswana. As part of any course, DDS can include lessons on marketing, preparation of promotional information, pricing and costing, basic record-keeping and the proper utilisation of raw materials.

Kuru Development Trust *

This project located in D'kar includes the Kuru Cultural Project, which provides facilities, materials and encouragement to individuals in art and crafts. During the early 1990s, a Cultural Centre and Museum was established in D'kar. Kuru also runs a craft development and marketing project, which has expanded considerably during the 1990s, to reach craft producers outside the immediate D'kar area.

Mambo Arts Commune

Mambo was a non-profit organisation that started in 1987. Its programmes and projects focussed attention on youths to help them "to appreciate their own culture and use its positive aspects as a basis to develop and serve the basic needs of our people." They organised workshops and exhibitions, published and held performances attempting to reach vast sections of society. Areas in which Mambo Arts concentrated on were music and dance, musical instrument making, art and crafts, stage setting and decoration, visual arts and script writing. This organisation closed its doors in 1996.

National Development Bank (NDB) *

The NDB is parastatal development finance institution that provides long-term loans to industry and commerce, as well as agricultural projects and businesses. For some small-scale entrepreneurs, it provides the entrepreneurs' portion of the initial costs to gain a FAP grant.

Peace Corps

In mid-1990, Peace Corps organised a craft fair and short training seminar for craft producers of Botswana. Most of the participating craft people were attached to organisations or projects that were already receiving assistance from Peace Corps Volunteers. The aims of this training activity were to provide handicraft producers with a market and to introduce the idea of producers marketing their own crafts without relying on any intermediary structure. The seminar reinforced the concepts introduced during the fair, including such areas as presentation, designing and setting-up displays, how best to service customers and some basic business principles. This United States volunteer organisation ended its services to Botswana in 1998.

Rural Industries Innovation Centre (RIIC) (under Rural Industries Promotions (Botswana) (RIP)*

The Rural Industries Promotions Company (RIP) and its training and research centre, Rural Industries Innovation Centre (RIIC), promote industrial development and employment creation in rural areas through disseminating appropriate technology information and providing training to rural entrepreneurs. RIIC, located in Kanye, runs a variety of training courses for rural crafts people through their Village Artisan Training Programme (VATP). Novice and upgrading courses are held in such craft areas as: bread-baking, tannery, leatherwork, carpentry, blacksmithing, wire-mesh production, patchwork and bone-carving. Courses run from two to eight weeks in length and are conducted both in Kanye and out in the rural areas. Business and marketing advice is given along with the technical training. All of the skills taught (with the exception of patchwork and bone-carving) result in the trainee being able to produce products for local, rural consumption. For these areas, RIIC is experiencing some problems with being able to follow-up on their trainees, but their staff at least appears suitable to assist past participants. In contrast, the crafts of patchwork and bone-carving, which must be marketed to tourists, affluent Batswana or expatriate residents, require staff members with marketing knowledge and experience.

Other

Within the different districts, Brigades and Rural Training Centres have provided *ad hoc* workshops in craft-related fields. For example, Denman Rural Training Centre in Sebele and Southern Rural Training Centre at Pelotshetlha have run handicraft courses in areas such as basketweaving, mat-making, crocheting and macrame.

2. ADVISORY OR TRAINING PROJECTS AND PROGRAMMES IN THE PROPOSAL STAGE AT THE START OF THIS STUDY

Botswana Polytechnic's Diploma in Graphic Arts

In the early 1990s, this institute offered a Bachelor of Education Degree in Design and Technology, and discussions were underway on a new programme: Diploma in Graphic Arts. At that time, no funds were available for the needed expansion, including more classroom and accommodation space and for additional manpower. The diploma programme would probably be accredited through the City and Guilds of London accreditation programme. Similar to the D&T programme, graphic arts could ultimately have a positive impact on certain craft fields such as textile design. It is not know if this diploma programme ever materialised.

Botswana Youth Centre under the First Lady's Charity Fund

In 1990, the First Lady's Charity Fund started to work on the idea of a Youth Centre, which would "provide specific infrastructure for the educational, cultural, and social development of today's Batswana youth." The Centre would provide a variety of subjects, but concentrate on practical learning. Arts and crafts were planned to be included because they promote "awareness of Botswana traditional heritage and creativity for its development." The building was partially built, but never used as Youth Centre, and eventually completed and rented to Barclays Bank for their in-house training centre. In the late 1990s, the Charity Fund was doing some work with youths, especially the so-called 'street kids'.

Department of Culture's Cultural Centre

A feasibility study was conducted during the early 1990s to plan for a National Cultural Centre or Village that would reflect Batswana traditional and cultural style of living. The location was proposed to be near Palapye. All aspects of culture were planned to be included: performing arts, crafts, food, games and traditional housing. This project never got off the ground.

Pula Craft Trust

Although in the planning stage since 1985 and legally made into a trust in February 1991, little specific action was ever taken to get it off and running. An eight-member board had been appointed, which consisted of craft producers, craft shop managers and advisors, but it seemed they only met a few times due to lack of time and commitment. The main aim of the trust was to act as an umbrella organisation to coordinate and oversee production and promotion of handicraft

development in Botswana. Twenty specific objectives were outlined, which were to be met by a variety of activities, but no specific activities ever began.

Small Enterprise Promotion Trust (SEPROT) *

Founded in the mid-1990s, this umbrella body aims to unite all organisations participating in small business promotion with the objective of building up a national network of agencies engaged in assisting small businesses. It tries to operate as a coordinating body, rather than controlling.

Takatokwane Project

In Kweneng West where over 10,000 people reside, a project was planned in 1992 to provide training and advice for productive activities, such as roof thatching, basketry, pottery, sewing , knitting and a garden project. Women's Finance House and Emang Basadi funded the construction of a house for the coordinator and other funds were obtained for a training centre and to run the courses. CORDE ran some of the courses, but the main activity appears to have been a garden project. Once donor money was no longer available, the centre closed down in 1996.

Young Women's Christian Association's (YWCA) training programme in art

In the early 1990s, this long-standing organisation was developing new plans for a training project to be based in Gaborone that would train instructors in fine, applied and performing arts. The intention was then to have the instructors work out of the regional YWCA offices in Mahalaype, Francistown, Maun and Kanye. It does not appear that this idea went beyond the planning stage.

Other

An independent group of interested people arising out of a public meeting on the Cultural Centre proposal (see above) proposed the idea of an art centre to include performing arts, video and film-making, music, art and crafts. Instruction, performances and exhibitions would be part of the activities. Apparently this idea is still occasionally discussed, but nothing has come of it yet.

3. COLLECTION/DISTRIBUTION CENTRES

Throughout the different districts not-for-profit organisations serve handicraft producers. The range of activities, size of operation, and viability and success varies widely from one organisation to the other. They all have two activities in common: collecting crafts from producers and

distributing them to the market. Collection usually works by the organisation travelling out to the producers and, to a lesser extent, the producers travelling to the collection depot. Most organisations pay cash directly, although collecting on a consignment basis was very prevalent in the past and is still conducted under certain circumstances today. Products are sold in a variety of fashions, including: at shops owned by the organisation, taking market trips around the country, exporting, informally selling to friends and colleagues, and attendance at agricultural and trade shows. The following organisations existed during the 1980s and early 1990s. Those still operating in 1999 are marked with *:

- Botswanacraft Marketing Company* (based in Gaborone since 1970, used to collect crafts nationwide; since 1993, it has been run as a privately-owned, profit-making company that promotes and sells crafts from around southern Africa, no longer just Botswana products)
- Gantsi Craft* (based in Ghanzi, covers Ghanzi District and parts of Kgalagadi District)
- Chobe Craft* (based in Kachikau, covers the Chobe Enclave)
- RAD-Project Kang (based in Kang, bought and promoted crafts from the immediate area)
- !Kung San Works Trust (based in Maun; purchased crafts from Bushmen in western Ngamiland)
- Kuru Development Trust* (based in D'kar covers parts of Ghanzi District and Kgalagadi District)
- Mahalapye Development Trust* and Shoshong Development Trust* (both cover Central District. These two Brigades still exist, but no longer appear to be undertaking craft development.)
- District-level Museums (in 1999, all were running small craft shops):

  Kgosi Sechele Museum* (in Molepolole)

  Khama III Museum* (in Serowe, assists woodcarvers and basketmakers in Central District)

  Nhabe Museum* (in Maun)

  Phuthadikobo Museum* (in Mochudi, besides buying crafts from independent producers, also runs a textile workshop)

  Supa-Ngwao Museum* (based in Francistown, assists producers in the North East District and north-eastern Central District)

APPENDIX 3.2

A DESCRIPTION OF BOTSWANA'S FINANCIAL ASSISTANCE POLICY

The Financial Assistance Policy (FAP) was introduced by the Government of Botswana in 1982 with the main objectives being to create employment, develop the rural areas, encourage entrepreneurial skills among Botswana's citizens, diversify the economy beyond cattle and mining, and produce goods for export or import substitution (GOB 1984:6; Smith *et al* 1988:24; EPU 1989: 1; Lintz *et al* 1990:18–19). Two principles behind FAP are that government funds should be used to support only potentially viable enterprises ("we should not give away money without a good chance of creating new and productive jobs" (EPU 1989:2)), and assistance should only be temporary, lasting no more than five years.

The FAP objectives are addressed by assisting Batswana to establish their own businesses, by attracting foreign investment, and by providing assistance to infant industries (Lintz *et al* 1990:18–19). By tying part of the project assistance to the number of citizens employed, investors are given an incentive to create employment by using labour-intensive production methods. Through the subsidization of training costs, FAP attempts to encourage skill development (GOB 1984:6).

FAP targets both new and expanding large-, medium-, and small-scale productive enterprises excluding beef production and large-scale mining. Productive businesses are defined as business activities that produce or process goods for import substitution or for export (Pearlman 1990). Until the mid-1990s, FAP did not cover service activities *per se*, but 'linking' industries that provided support to productive enterprises, such as marketing, repair and maintenance facilities, were eligible (EPU 1989:3). By the late 1990s, service industries such as tourism, transport, repair and construction did become eligible for FAP (MFDP 1997:157; UNIMEDIA 1997:11).

New ventures and existing productive enterprises that qualify for assistance are separated into three different groups, as follows (Pearlman 1990):

1) Small-scale Projects – having fixed capital investment of less than P25,000. All assistance is in the form of non-repayable grants. Grant amounts are determined as a portion of the total capital needed and vary (between five and 95 percent) according to

different characteristics, including: location, woman-ownership, number of jobs created, and whether the owner will also manage the project (see EPU 1989:8 for exact details of how the small-scale grant is calculated).

2) Medium-scale Projects – having fixed capital investment of between P25,000 and P900,000.

3) Large-scale Projects – having fixed capital investment in excess of P900,000.

The fixed capital investment levels are re-evaluated periodically based on inflationary levels and raised according (MFDP 1997:157). Both non-citizens and citizens are eligible to apply for large- and medium-scale assistance, but only citizens can receive assistance through the small-scale component. With only a very few exceptions, FAP grants provided to the handicraft sector fall under the small-scale category.

The FAP programme has been evaluated three times since its inauguration – in 1984, 1988 and 1995. While FAP is seen to address some significant problems of entrepreneurs, it fails to support firms in a number of key areas (Smith *et al* 1988:v). Major shortcomings of the programme included: lack of adequate monitoring and auditing, poor supervision of clients and service to clients, and weak coordination between other financial institutions and IFS (Lintz *et al* 1990:18–19).

The 1984 evaluation concluded that for a number of FAP recipients, the financial assistance will end up meaning a net loss because some individuals have contributed their own resources or acquired loans to launch their businesses, and because the businesses were never really viable in the first place. These were enterprises that should never have received support in the first place, but did because of political pressure to release the funds during the early stages of the FAP programme (CMI 1984:62). Both evaluations discovered that disbursements were quite low and the failure rate of projects quite high. (Morapedi and Jones-Dube (1988:17)estimated between 30 and 35 percent, while Smith *et al* (1988:ix) estimated between 40 and 50 percent for small-scale enterprises. Apparently this failure rate has been due to the largely uncritical acceptance by FAP evaluators of highly optimistic projections prepared by grant seekers. However, the

evaluators do note that these failure rates are well below unassisted small-scale enterprises in other developing countries (Smith *et al* 1988:ix).[1]

Although FAP was introduced to help diversify the economy, the first evaluation discovered that many of the feasible opportunities for manufacturing were already being actively explored before FAP was announced. The evaluators concluded that a majority of FAP-assisted projects would have started with or without the initiation of the FAP programme (CMI 1984:33). However, the evaluators noted that this result was clearly affected by FAP being in its early stages in 1984.

The evaluation conducted in 1988, found that 61 percent of the grants issued to small-scale enterprises resulted in employment generation; that is, the hiring would not have occurred if no grant were available (Smith *et al* 1988:vi). FAP has been an especially strong force in creating employment for many people who might not have been employed, such as those with no or limited education and no employment prospects, and at an acceptable investment per job (Morapedi and Jones-Dube 1988:26; Smith *et al* 1988:v). It is also believed that FAP has increased real wage flows (Morapedi and Jones-Dube 1988:26). While there were some doubts about the sustainability of the employment created and some evidence of abuse, the 1988 and 1995 evaluations on the FAP programme concluded that FAP has largely met its main objectives and has generally been successful (MFDP 1997:157).

In conclusion, having detected specific problems with FAP, the 1984 evaluators still came to the conclusion that "the FAP after only 22 months of implementation has proved a fresh, creative approach to the problems of industrialisation in the small-scale sector" (CMI 1984:63). One of the major benefits of the FAP programme has been the opportunity to discover and bring out into the open the actual problems of small-scale entrepreneurs (CMI 1984:64). Once this information came to light, it has been easier to form policies and plan specific programmes to address the problems and constraints. Even with its shortcomings, "FAP has contributed significantly to the realisation of key national objectives" and "while there is much room for improvement, FAP represents a good investment of public funds for sustained development" (Smith *et al* 1988:viii–ix).

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[1] It should also be noted that even in a developed country such as the United States, 50 percent of businesses fail within the first year and 80 percent fail within five years, with the most common reason considered to be "management deficiencies" (Smith *et al* 1988:67).

APPENDIX 3.3

BOTSWANA'S MICRO-, SMALL-SCALE AND INFORMAL SECTORS: CHARACTERISTICS, CONSTRAINTS AND STRATEGIES

1. CHARACTERISTICS [1]

1.1 The average size of a Botswana MSE is 1.8 workers, including the proprietor. However, the majority of MSEs (66 percent) provide employment for only the owner. Women represent between 53 and 75 percent of the owners/operators, depending on the rural or urban location.

1.2 The majority of MSEs (69 percent) are found in rural areas, which reflects the fact that 76 percent of the total population live in rural areas.

1.3 Many of the rural, small-scale entrepreneurs practice arable farming in addition to undertaking business activities.

1.4 The typical MSE operates 11.5 months per year and 27.9 days per month.

1.5 Trade represents 53 percent of the MSEs' activities and manufacturing 41 percent.

1.6 Proprietors are, on average, 41 years old and have 7.5 years of experience in the same area as their current business.

1.7 Levels of education are fairly low, with 29 percent having no formal education and 48 percent having completed only primary school. Different figures were found during the 1988 evaluation on FAP recipients, which discovered that 63 percent of the respondents had completed primary school. Only seven percent of proprietors have had any business

[1] Sources for this section: CMI 1984; Morapedi and Jones-Dube 1988; Daniels and Fisseha 1992 (Later studies, such as Somolekae (1994), Fidzani and Mafela (1995) and PEER Consultants (1997), refer to the Daniels and Fisseha 1992 study as the most thorough, and further confirm most of the 1992 findings; Nkwe and Raile (1992) also extensively cite Daniels and Fisseha 1992 and SIAPAC (1991)); and Sunny 1992 citing the Income and Employment Survey 1992, Department of Economics, University of Botswana.

training such as management, bookkeeping, or marketing, and even a smaller percentage have had any formal technical training.

1.8 About 40 percent of the small-scale entrepreneurs keep a written record of their business operation.

1.9 About a quarter of the small-scale enterprises could not distinguish between sales and profits.

1.10 The majority of MSEs (70 percent) are working from home, while 15 percent are located on the roadside, in open market places or are mobile.

1.11 Almost all of the MSEs (99 percent) sell directly to the final consumer. It is interesting to note that those few firms which do not sell to the final consumer exhibit higher growth rates and employment levels.

1.12 Small-scale enterprises are largely dependent on local inputs and local markets with most selling within their own communities.

1.13 Small-scale, non-farm activities account for about 27 percent of average household income. Farming accounts for 29 percent, salaries and wages 23 percent, and remittances and gifts 21 percent. An estimated 54 percent of the MSEs provide 50 percent or more of household income in both urban and rural areas.

1.14 Only 11 percent of the enterprises had ever received credit with the primary source being loans from family and friends rather than formal institutions.

1.15 Many proprietors were unaware of the financial assistance programmes available in Botswana. Only 27 percent and 29 percent knew about FAP and NDB, respectively, while only 7 percent knew about other assistance programmes. Of all the enterprises interviewed during the 1992 study, only four percent had received funds through FAP and none from NDB.

1.16 Although the average growth rate of MSEs per annum is estimated to be 7.8 percent, the majority have actually not grown at all. Three-quarters have not grown and 5.3 percent have contracted. Of the 19 percent that did expand, the average annual growth rate was 44 percent.

2. PROBLEMS AND CONSTRAINTS[2]

2.1 Limited commercial tradition – absence of a long commercial tradition amongst the Batswana due to the availability of other income-earning opportunities or restrictive protectorate legislation (e.g. migration to the mines, 'business' experience based on cattle ownership, pre-independence restrictions placed on Batswana's entrance into the trading sector, and deliberate discouragement of productive activities within the country).

2.2 Weak business planning – poor initial planning in such areas as the nature of supplies and markets, the labour demands of business, cash flows and equipment needs.

2.3 Inadequate market strategies – lack of understanding of the competition and the market for the goods produced, absence of awareness of export opportunities, and limited knowledge of export procedures.

2.4 Management/operational difficulties – lack of experience in commercial enterprises, absence of proper management skills and operational routines, poor management and financial control, lack of confidence in one's ability to run a business.

2.5 Inadequate record keeping – lack of knowledge on how to keep records or how to make use of them if kept.

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[2] Sources for this section: Dirasse undated, 1987; FGU 1978; Hunter 1978; Taussig 1980; MacKenzie and Taussig 1981; Narayan-Parker 1982; CMI 1984; GOB 1984; BDS 1985; EC 1985; IAE 1985; Cownie 1987; Morapedi and Jones-Dube 1988; Jones 1988; Smith 1988; Smith *et al* 1988; BOCCIM 1990; Kaplinsky 1990; Lintz *et al* 1990; MFDP 1991; Mogae 1991; SIAPAC 1991; WFHB 1991; Business Correspondent 1992; Daniels and Fisseha 1992; DIA 1992a&b; MCI 1992; Rempel 1992; Rondinelli and Kasarda 1992; Tropin 1992; Somolekae 1994, Fidzani and Mafela 1995; Creemers 1997; PEER 1997. The majority of these reports and studies repeatedly mentioned the same problems for the MSEs.

2.6 Limited collateral – lack of fixed assets (i.e. land, buildings and other infrastructure) normally used as collateral, and unwillingness of lending agencies to consider movable assets as collateral.[3]

2.7 Constraints of start-up and working capital – partly due to limited collateral (however, see Footnote 3) but also because of general poverty and the need to use cash for household needs rather than in support of businesses (especially true for women). Lack of access to credit facilities relates to inadequate security plus inadequate knowledge about credit or grant sources, lack of awareness of how banks operate, and the inability to produce well-prepared project documents or negotiate assistance. Limited access to finance and credit is especially critical for small-scale enterprises located in rural areas, particularly for those run by women who suffer from legal and social constraints.[4]

2.8 Other viewpoints say that 'free money' is too readily available in Botswana. Farine (1988:11) cautions against subsidy policies or the policies of free credit or credit subsidies, saying that they are not always an efficient way of promoting small-scale enterprises such as craft activities. These subsidies tend to push small entrepreneurs into

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[3] While most authors (for example IAE 1985, WFHB 1991) writing about Botswana state collateral as a significant problem, one report disagrees saying that "lack of adequate collateral is distorted out of proportion to its importance in commercial bank credit worthiness analysis" (Lintz *et al* 1990:30). According to Lintz *et al* (1990:30), magnitudes of collateral are not determined by the banks until all other aspects of a loan request are examined, especially project viability, managerial skills and financial discipline. In fact, only 7.3 percent of 20,715 loans issued in 1987 by three banks in Botswana required real assets as collateral.

[4] Most of the literature on Botswana small-scale enterprises cites lack of access to credit as a main problem. However, this should not be interpreted as lack of available credit facilities. For example, under USAID's Bureau for Private Enterprise's Loan Guaranty Facility for Botswana, overall utilisation from August 1988 to September 1990 only reached 18 percent of the US$1.6 million guaranty coverage representing 40 loans to small- and medium-scale enterprises (Lintz 1990:53). The majority of the loans provided under this programme were to the service and retail trade sectors rather than manufacturing. Lack of access to credit, therefore, can be presumed to be due to lack of information on the available credit programmes and lack of ability to prepare the necessary business plan and project documents to apply for a loan. By looking at other sets of data, access to credit does not seem to be a major problem at all. For example, during a survey conducted on BOCCIM members in 1990, of 87 businesses classified as small-scale, almost 70 percent had received loans from financial institutions (Lintz 1990:8). In 1986, NDB established a Small Borrowers' Fund and during 1989/90, 213 loans were issued totalling P1.3 million. Tswelelo issued 317 loans valued at P8.4 million to small, citizen-owned enterprises in 1990 (Lintz 1990:19-21). Furthermore, in a survey of 900 rural entrepreneurs, SIAPAC (1991:56) discovered that nearly three-quarters of the respondents felt that other factors besides financial assistance were more important in making a successful enterprise.

having more capital and equipment that is out of all proportion and will be under-utilised and lead to a waste of resources. Andersson (1991:31) cites the same problem when he says Batswana entrepreneurs tend to 'shop around' for support in the form of grants or subsidised loans, without really considering what it means to be in business ("don't worry about a business plan, just give us the money").

2.9 Shortage of qualified employees – due to the inadequate educational facilities before independence, the continued shortage of skill and vocational training, the rapid expansion of the economy with the resultant shortage of skilled personnel, and the rapid movement of workers in and out of certain sectors. Similarly, low educational levels limit entrepreneurs' ability to venture into more complex projects or to expand their activities to more remunerative levels.

2.10 Bureaucratic red tape – difficulties facing small-scale entrepreneurs when attempting to register businesses or apply for government subsidies, including the completion of forms and applications and lengthy delays in response. One study (EC 1985:143) noted that any individual who attempts to start up a small-scale enterprise in Botswana must contact, on average, 16 different official/government agencies. The owner of the enterprise will then be supervised or regulated by about the same number of agencies.

2.11 Excessive cost and delays in conducting business – due to remoteness, poor roads, poor transport facilities, infrastructure, absence of reliable and inexpensive raw materials, supplies and other inputs, dependence on imported materials and theft.

2.12 Poor workshop facilities – including shortage of serviced land, high rents, inadequate space, no electricity, poor location, lack of access to capital, plant and equipment, etc.

2.13 High cost of utilities and land – water and electricity, and factory, office and residential space.

2.14 Lack of transport – to acquire inputs, especially for products produced from natural raw materials and to market products.

2.15 Lack of qualified repair and service enterprises, especially for machinery and electrical equipment – e.g. sewing machines, electrical tools.

2.16 Small size of the domestic market – while the domestic market is growing, its small size is a constraint on production where economies of scale are important. In addition, consumers in rural areas have little money creating low demand for producers' goods.

2.17 Stiff competition created by the customs union and an economy which is very open to foreign trade – the availability of cheap, mass-produced and subsidised South African imports, coupled with consumer preference for cheaper, imported goods. This rather unique situation is a distinct advantage for the average consumer in Botswana, but creates a serious comparative disadvantage for Botswana's budding industrial sector and is emerging as an increasingly important problem for the economy.

2.18 Poor quality products and/or service – lack of entrepreneurial discipline and adequate technical skills, especially knowledge of design, lack of attention to detail and finishing, lack of official industrial standards, lack of knowledge of what the market requires, poor worker efficiency and, probably most importantly, lack of awareness that these problems exist and need to be addressed.

2.19 Dearth of viable small-scale projects – while few government officers would probably officially admit it, there are really only limited possibilities for small-scale production activities that have the potential to be financially viable, due mainly to Points 2.16, 2.17 and 2.18 listed directly above.[5]

2.20 Frustration or unhappiness in groups that run on a collective or cooperative basis – dissatisfaction with minimum number requirements to obtain government assistance (e.g. horticultural AE-10 supported projects require a minimum of ten members) and sharing limited profits collectively, lack of group organisational skills coupled with the tendency for members to rely on one or two active members while the rest do not

[5] Even though FAP was introduced to help to diversify the economy, in fact it was discovered that many of the feasible opportunities for manufacturing were already being actively explored before FAP was announced (CMI 1984:33).

contribute actively, lack of cooperation, and difficulty in supplying any 'self-help' component. All of these lead to a preference for employment in formal jobs rather than self-employment in group projects.[6]

2.21 Illiteracy – for some, illiteracy intensifies their problems of poor management skills, inadequate technical training, and lack of access to start-up and working capital.

2.22 Poor health – in several studies, illness, old age, poor eye sight and infirmity were mentioned as problems having a negative impact on the success of a small-scale industry.

2.23 Part-time entrepreneurs – tendency for many individuals to run their business part-time, because they may be running several businesses along with farming and cattle raising.

2.24 Women entrepreneurs face special problems due to inferior legal status – women married in 'community of property' are relegated to the status of minors and treated as such in dealings with banks because they need their husbands' consents to acquire loans. Women lack property rights because all immovable property must be registered in the husbands' names, and they may not sell, convey or mortgage any property without their husbands' consents.

2.25 Women face difficulties in combining income-generating activities with home responsibilities, especially the care of children – inadequate earnings to hire child care, lack of support from relatives and inadequate day care facilities prevent women from participating fully in development and business activities.

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[6] This information and conclusion was obtained from a study conducted in 1985 (IAE 1985). In total contrast, an earlier study (Narayan-Parker 1982) determined that there was a strong preference for being self-employed rather than working for someone else. Perceived benefits included: independence, total responsibility, flexibility of work schedule and claim to total profit. Clearly the results of these two studies reflect different attitudes of the 'self-employed', determined by their working set-up: in a cooperative or group project versus those truly self-employed who are working on their own or with a few family members.

2.26 Women face other disadvantages created from societal constraints – women's economic role in society is underrated, which creates lack of confidence, generally lower education levels than men, fewer assets than men because of limited ownership of smallstock or cattle which can be turned into cash for business start-up, and the tendency to fall into stereotyped enterprises (e.g. sewing, knitting, and food preparation and sale) which are often significantly smaller and less productive than those activities undertaken by men.

2.27 Inadequate support from extension workers and business advisors – due to the advisors' lack of adequate training and experience, plus constraints caused by understaffing, vast distances, and lack of transportation, accommodation and support from central ministries. There is poor distribution of support services because government has found it difficult to recruit and retain extension officers with competency in management assistance who are willing to work in rural areas, where the majority of small-scale enterprises are located.

2.28 Inconsistent policies and programme implementation along with lack of coordination to promote small-scale industries effectively – many advisory services provide a 'hit-or-miss' service that is not based on sound baseline studies or needs assessments; advisory services are too stretched to provide close and effective monitoring especially necessary during the early stages of any new business, so monitoring often only becomes urgent when a crisis exists; extension officers have failed to prepare and retain records on the small-scale enterprises that they assist, which reduces the chance to provide timely and relevant assistance, or to follow up when extension staff relocates.

2.29 For FAP grant recipients, long delays have occurred from the time of application to the time that funds have been approved, often rendering the original calculations for inputs obsolete.

2.30 In many cases where NDB issues purchase orders for FAP recipients and the NDB is to pay the supplier or wholesaler, it has been found that NDB's long delays in making payments have caused suppliers to refuse to honour purchase orders. This problem becomes very severe in rural areas where producers are limited to only one supplier.

2.31 Export constraints – lack of any coherent and coordinated export strategy by government, lack of experience and difficulties of marketing and promotion to distant markets, no export incentives.

2.32 Inability to compete in a tough market – due to all the above mentioned factors. This often retards the growth of citizen-owned firms and leads to a loss of interest in projects, especially by those who have benefited from such incentive packages as FAP.

3. STRATEGIES TO SOLVE SOME OF THE PROBLEMS [7]

3.1 Provision of improved infrastructure by government, including such things as a road network, more serviced land, and additional factory shells. Entrepreneurs should be involved when the proposed factory shells and marketing places are sited. Unfortunately the factory-shell programme to date has caused another problem: entrepreneurs are reluctant to leave them because the rent is much less than market prices, and they have established their relationships with their clientele at these sites.

3.2 Although progress has been made towards establishing a consistent industrial policy and aims, further efforts must be made to translate these objectives into practical activities orientated toward concrete targets. For example, coordinating the application process for permits (e.g. manufacturing licences, access to industrial land) would allow a prospective business to apply for all simultaneously. Coordinated development strategies should be planned and implemented taking into account the specific needs particular to each enterprise sub-sector and to firm size.

3.3 In order to absorb the seasonally unemployed or underemployed from the rural areas, rural institutions should be created which support small-scale and informal sector industries with emphasis on indigenous technology, domestic finance and rural infrastructure. When the attractiveness of the rural area is enhanced through an

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[7] Sources for this section: FGU 1978; CMI 1984; GOB 1984; BDS 1985; EC 1985; IAE 1985; King 1987; Smith 1988; Hirschowitz 1991; WFHB 1991; MCI 1992; Daniels and Fisseha 1992; DIA 1992a&b; Sunny 1992; Brand *et al* 1993; Somolekae 1994, Fidzani and Mafela 1995; Hansom and Shiimi 1995; PEER 1997. Many of these sources repeat the same strategies to solve entrepreneurial problems. Specific sources are mentioned in the text for cases where only one report cited the strategy or gave strong emphasis to that strategy.

integrated rural development approach and promotion of rural technological development, employment opportunities should expand (Sunny 1992:5).

3.4 Reduction in the number and powers of official regulatory agencies to cut down on costs and bureaucratic red tape.

3.5 Because of Botswana's recent establishment of a modern economy and its particularly difficult environment of business constraints, special efforts are needed to stimulate the transfer of management and technical skills. Botswana cannot rely on the informal passing of information and skills from one business generation to another which has sufficed in many other countries, because only first generation entrepreneurs are found in Botswana (Smith 1988; Lintz *et al* 1990).

3.6 Most literature claims that the acquisition of skills is the most important need to address in order to increase the success rate of small-scale enterprises.[8] PEER Consultants (1997:37), although writing a report in preparation for a national training policy on the informal sector, noted that only a few of the surveyed entrepreneurs (N=90) felt that poor skill levels were much of a problem or technical training was a priority need. Rather, this surveyed group felt that lack of equipment and finance were the top problems needing to be addressed.

3.7 The problems that small-scale producers face are inextricably linked, and assistance programmes must not focus on only one aspect but address all issues in a coordinated fashion.[9]

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[8] In the 1992 Gemini study (Daniels and Fisseha 1992:40), over 93 percent of the MSE proprietors (N=256) had never received any business training. Of these, 13 percent felt they needed no further training and 38 percent did not know what type of training they would need to improve their business. Among the remaining 49 percent, 14 percent wanted management training, 13 percent technical training, 11 percent bookkeeping, and 8 percent marketing.

[9] An example is given for Botswana with FAP assisted small-scale fishery programmes. FAP assistance provides the funds to meet financial constraints and the fishermen are allowed to use their hand-built canoes as their personal contribution to gain access to FAP funds. Technical training is provided by the Fisheries Department and the fishermen must attend these training courses before having their FAP grant approved. Finally, marketing is assisted by having fishery officers buy the fish from remote area fishermen and redistribute it under the Food Resources programme to clinics and schools (CMI 1984:65).

3.8 Organisation of business training, along with marketing seminars, including specific training on tendering procedures, how and where to obtain credit, import/export procedures, and debt collection and management.[10]

3.9 Whenever possible, subsidised technical and business training should be built into employment opportunities and income-generating projects to improve technical, business and management skills of the employees and participants on the job. Formal vocational training programmes should not only prepare students for formal employment but also include aspects for the possibility of self-employment and participation in the informal sector.

3.10 Provision of advisory services that concentrate on improving profitability, preparation of business plans and simple record keeping, including such basics as what constitutes a successful entrepreneur and the responsibilities of a entrepreneur.

3.11 Business advisory services should coordinate their training with the Department of Non-formal Education to teach basic reading, writing and arithmetic skills, and to develop appropriate teaching materials to combine basic literacy and numeracy training with business training.

3.12 Entrepreneurs should be encouraged to discuss their perceptions of their business problems and be directly involved in the development of training programmes.

3.13 Establishment of service centres or special training programmes geared to teach entrepreneurs to repair their own equipment (e.g. sewing machines, weaving looms).

3.14 Business advisors, extension workers and trainers often lack adequate training themselves, and therefore, concentrated efforts are needed to train these workers, not only in business and technical skills but also in active problem-solving capabilities and in knowledge about the local area where they will be working, especially around the

[10] An Export Promotion and Market Development Project for women entrepreneurs under the auspices of the International Trade Centre (ITC) was started in 1992. Weaving and tapestry enterprises were identified in the first five core businesses to receive training and assistance (Business Correspondent 1992).

socio-economic and cultural aspects. PEER Consultants (1997:57) cite two suggestions by King (1987) that could be used in Botswana: a) strengthen the relevance of courses offered by informal training institutions through the provision of customised training materials, and b) develop institutional linkages between informal and formal training institutions.

3.15 On top of the existing FAP programme, consideration is being given to the development of a credit programme which will include a revolving fund (DIA 1992a; MCI 1992).[11] This credit facility can be used to meet the costs of the personal contribution which is needed to gain access to FAP funds.

3.16 Assisting entrepreneurs with market surveys (to date, surveys have been conducted on brick-moulding, sewing and carpentry) and advice on diversification, substitution potentials and export procedures.

3.17 Need for more impact evaluation studies using participatory methods to determine the effects of development assistance on income-generating projects, small-scale enterprises or cooperative groups.

3.18 The Institute of Adult Education (IAE 1985:52) feel that "almost all small-scale (and many medium-scale) income-generating projects have little chance of being financially viable and self-sufficient, even in the long-term" and they therefore recommend that there needs to be a commitment to provide direct and indirect subsidies. They suggest that capital and other start-up costs should be provided and other inputs be subsidised through the life of the project. IAE further states that a minimum five-year commitment needs to be made to projects to provide the necessary recurrent costs, technical or advisory support. FGU (1978:228) concurs that subsidies are needed to facilitate the competitive ability of domestic enterprises. They suggest that subsidies should be

[11] While DIA (1992a:7) mentions the need for introducing a credit programme, no mention is made of the under-utilised private enterprise loan guaranty facility that was introduced in 1988 through three of Botswana's commercial banks by USAID for small-and medium-scale enterprises (Lintz 1990). Furthermore DIA does not acknowledge the existence of Tswelelo or the National Development Bank's loan programmes.

applied, at least in the short-term, towards transport for inputs, marketing costs and marketing promotion.[12]

3.19 Need to recognise that there are gender-specific problems with small-scale enterprises and these constraints need special strategies.

3.20 Creches or daycare centres should be provided by government or at places of employment to enable women to participate fully in productive activities (IAE 1985:56).

3.21 In the many cases where it is not necessary or advantageous for people to produce collectively, people can be encouraged to come together for other purposes. Sharing commonly needed resources, such as tools or work space, is one possibility. Coming together around common issues or problems, such as problems of input supply or marketing is another (IAE 1985:64; Terry 1987b). The formation of strong associations to deal with concrete issues and problems facing individual producers or production units is also recommended (IAE 1985).

3.22 Further development of the "Buy Botswana" campaign which tries to promote the idea of buying products produced in Botswana before others.

3.23 Encourage the expansion of small-scale production in remote areas which are geared to meeting local demand.

3.24 Create demand by stimulating specific sectors that may need the goods and services provided by MSEs, and by providing equal access to formal sector markets in the form of government orders and subcontracting by large firms to small firms.

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[12] Government policy on this issue clearly states that the expected benefits to Botswana in terms of new incomes and new jobs created must outweigh the costs of any assistance or grants. Furthermore, any assistance from government should be temporary (i.e. no longer than five years) (GOB 1984:6). In contrast, Hansohm and Shiimi (1995:9) are of the opinion that Botswana has not created a sustainable MSE sector, "but rather of inefficient enterprises dependent on government assistance."

APPENDIX 4.1

ALL HANDICRAFT PRODUCERS IN BOTSWANA (AS OF NOVEMBER 1992)

* Note: Numbers for most production units are exact. Numbers for informal producers are best estimates.

SF NO.	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL*	FEMALE	FEMALES AS % OF TOTAL
1	FCUJG	A Rona Gemstones	gem/bone jewellery	Gaborone	South East	3	3	100%
2	FCUWT	Baikagi Weavers	tapestries	Lobatse	South East	10	10	100%
3	FCULU	BGI Tanning	game-skin tanning/skin mats	Francistown	North East	130	50	38%
4	FCRLU	Blackie's	leatherwork	Pilane	Kgatleng	3	1	33%
5	FCRWT	Bokspits weavers	tapestries	Bokspits	Kgalagadi	15	15	100%
6	FCRLU	Botswana Leather Work	leatherwork	Pilane	Kgatleng	22	16	73%
7	FCRPB	Botswelelo Center - Thamaga Pottery	pottery	Thamaga	Kweneng	17	10	59%
8	FCULU	Bushman Products	game-skin products	Francistown	North East	32	26	81%
9	FCRLU	C.M. Leather Works	leatherwork	Pilane	Kgatleng	10	8	80%
10	FCRTB	Camphill textile workers	batik/silkscreen/tie & dye	Otse	South East	5	5	100%
11	FCRCM	Camphill hornworker	horn	Otse	South East	1	0	0%
12	FCRCW	Camphill woodworkers	wooden toys	Otse	South East	2	1	50%
13	ITRBB	Chobe District basket-weavers	basketry	Enclave/Panda	Chobe	170	160	94%
14	ITRPT	Chobe District pottery	pottery	Enclave	Chobe	1	1	100%
15	ITRCW	Chobe District woodcarvers	wood carvings	Enclave/Panda	Chobe	10	0	0%
16	FCRTP	D'kar sewing group	fabric painting & patchwork	D'kar	Ghanzi	5	5	100%
17	ICRTD	D'kar station Herero doll-makers	Herero dolls	D'kar	Ghanzi	5	5	100%
18	FCRLU	D'kar tanners	tanning/leatherwork	D'kar	Ghanzi	13	0	0%
19	FCUWT	Fashion Enterprises	handknotted rugs	Selebi-Phikwe	Central	30	30	100%
20	FCRLU	Flora's Leather Works	leatherwork	Pilane	Kgatleng	7	5	71%
21	ITRJT	Gantsicraft beadworkers	beadwork	throughout	Ghanzi	250	250	100%
22	ITRNR	Gantsicraft dance-rattle producers	dance rattles	Xade	Ghanzi	30	0	0%
23	ITRLT	Gantsicraft skinworkers	skinwork/hunting sets	throughout	Ghanzi	220	0	0%
24	ITRCW	Gantsicraft thumb pianos producers	thumb pianos	throughout	Ghanzi	10	0	0%
25	ITRBM	Hambukushu matmakers (male)	*lethaka* mats	Etsha/Shakawe	Ngamiland	25	0	0%
26	ITRCW	Hambukushu woodworkers	thumb pianos, drums, axes, etc.	Etsha/Shakawe	Ngamiland	100	0	0%
27	ITRBM	Hambukushu wig makers	*dishukeka* wigs	Etsha/Shakawe	Ngamiland	25	25	100%
28	FCUPU	Hangale Pottery	pottery	Francistown	North East	1	1	100%
29	FCRJM	Ikgabiseng Coop	eggshell, gourd, metal jewellery	Pilane	Kgatleng	6	6	100%

SF NO.	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL*	FEMALE	FEMALES AS % OF TOTAL
30	FCUJM	J+D Jewellery	metal jewellery	Gaborone	South East	10	10	100%
31	FCUJG	Kalahari Gemstones	gemstone jewellery	Gaborone	South East	1	0	0%
32	FCUPU	Kanye Potters	pottery	Kanye	Southern	4	4	100%
33	ITRJT	Kgalagadi beadworkers	ostrich eggshell beadwork	northern	Kgalagadi	150	150	100%
34	ITRLT	Kgalagadi skinworkers	skinwork	throughout	Kgalagadi	250	50	20%
35	FCULU	Kgalagadi Game Skin	game-skin products	Gaborone	South East	15	11	73%
36	ITRBB	Kgatleng basket-weavers	basketry	few scattered	Kgatleng	5	5	100%
37	ITRCW	Kgotla chair-makers (Central)	*kgotla* chairs	Dibete/Mahalapye	Central	5	0	0%
38	ITRCW	Kgotla chair-makers (other areas)	*kgotla* chairs	few scattered	throughout	20	0	0%
39	ITRBB	Kobojango area basket-weavers	basketry	Kobojango area	Central	50	40	80%
40	ITRJT	Kung San Works beadworkers	glass & eggshell beadwork	far western	Ngamiland	450	450	100%
41	ITRLT	Kung San Works skinworkers	skinwork/bow & arrow sets	far western	Ngamiland	200	0	0%
42	FCRWT	Lentswe la Oodi Weavers	tapestries, bedspreads, etc.	Oodi	Kgatleng	41	37	90%
43	FCRJB	Lerapa Design	bone-carving/jewellery	Otse	Southern	4	4	100%
44	FCRLU	Mabutsane Tannery	tanning/leatherwork	Mabutsane	Southern	19	19	100%
45	FCUTP	Marothodi Design	silkscreen printing/sewing	Francistown	North East	35	33	94%
46	FCRJC	Mokolodi Craft	clay & bone jewellery	Mokolodi	South East	9	9	100%
47	FCRTP	Mokolodi Craft	potato prints/wool toys	Mokolodi	South East	6	6	100%
48	FCRLU	Molefi Furs	leatherwork	Pilane	Kgatleng	11	7	64%
49	FCRLU	Molopo Leather	leatherwork	Molopo Farms	Kgalagadi	4	4	100%
50	ITRPT	Mosetlha area potters	pottery	near Kanye	Southern	30	30	100%
51	FCUJS	Motanka Jewellery	silver jewellery	Gaborone	South East	4	4	100%
52	FCRPB	Motsetse Pottery	pottery	btw F/town & Nata	Central	2	2	100%
53	ITRBB	Nata area basket-weavers	basketry	Nata area	Central	25	25	100%
54	ITRBB	Ngamiland (west) basket-weavers	basketry	near western	Ngamiland	2000	2000	100%
55	ITRBB	Ngamiland (Shorobe) basket-weavers	basketry	Shorobe area	Ngamiland	40	40	100%
56	ICRTD	Ngamiland Herero doll-makers	Herero dolls	far western, Maun	Ngamiland	20	20	100%
57	ITRBB	North East District basket-weavers	basketry	scattered	North East	10	10	100%
58	FCUJG	Okavango Curios and Gemstones	jewellery	Gaborone	South East	2	1	50%
59	FCRPB	Pelagano Pottery	pottery	Gabane	Kweneng	7	7	100%
60	FCRNR	Pelagano Village Industries crafts	calabashes/cornhusk dolls	Gabane	Kweneng	3	3	100%
61	FCRTP	Phuthadikobo Museum	silkscreen printing/sewing	Mochudi	Kgatleng	12	8	67%
62	FCRLU	Pilane Tannery	tanning/leatherwork	Pilane	Kgatleng	60	30	50%

SF NO.	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL*	FEMALE	FEMALES AS % OF TOTAL
63	FCRJM	Pilane Tinsmiths	frames, jewellery, mobiles, etc.	Pilane	Kgatleng	6	6	100%
64	FTRBB	Pudulogong School of the Blind	basketry	Mochudi	Kgatleng	32	30	94%
65	ITRBB	Serowe area basket-weavers	basketry	Serowe area	Central	20	20	100%
66	FCRPB	Serowe Pottery	pottery	Serowe	Central	3	2	67%
67	ICRCW	Serowe Woodcarvers	woodcarving	Serowe area	Central	30	1	3%
68	FCRPB	Serule Pottery	pottery	Serule	Central	4	2	50%
69	ITRLT	Shadishadi/Sojwe leatherworkers	tanning/leatherwork	Shadishadi/Sojwe	Kweneng	20	0	0%
70	ICRCW	Shashe woodcarvers	woodcarving	Shashe area	Central	50	3	6%
71	ITRLT	Shoshong Development Trust matmakers	skinwork, especially mats	Shoshong area	Central	25	0	0%
72	ITRBB	Southern District basket-weavers	basketry	scattered	Southern	6	6	100%
73	FCRTD	Sunday's Clothes	Herero dolls	Pilane	Kgatleng	4	4	100%
74	ICRCW	Thamaga area woodcarvers	woodcarving	Thamaga area	Kweneng	10	0	0%
75	FCUJB	The Craftsman	bone/wood carving	Lobatse	South East	2	0	0%
76	FCRJB	Thusang Mosweu craftworker	bone/wood carving	Serowe	Central	1	0	0%
77	FCRPB	Thusano Pottery	pottery	Ramotswa	South East	3	3	100%
78	FCUJS	Thusano Silversmiths	silver jewellery	Gaborone	South East	3	3	100%
79	FCUWT	Tswana Weavers	tapestries/rugs	Francistown	North East	21	21	100%
80	FCRWT	Tswelelopele Handicraft School/Disabled	tapestries/rugs	Maun	Ngamiland	17	11	65%
81	FCUWT	United Design	rugs	Lobatse	South East	37	35	95%
82	FCUWT	Weaves and Crafts	tapestries	Gaborone	South East	5	5	100%
		TOTALS				**4961**	**3804**	**77%**

PRODUCTION UNITS THAT CLOSED DOWN DURING THE SURVEY PERIOD (1990-1992)

NO	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL*	FEMALE	FEMALES AS % OF TOTAL
a	FCUPB	Moratwa Ceramics	pottery	Lobatse	South East	1	0	0%
b	FCUPU	Motamogolo (BEDU) Pottery	pottery	Gaborone	South East	4	2	50%
c	FCUWT	Tiro ya Diatla Weavers	tapestries	Lobatse	South East	13	13	100%
d	FCUPU	Ipelegeng Ceramics Services	pottery	Francistown	North East	10	5	50%
		TOTALS				**28**	**20**	**71%**

PRODUCTION UNITS THAT CLOSED DOWN AFTER 1992

NO	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL*	FEMALE	FEMALES AS % OF TOTAL
1	FCUJG	A Rona Gemstones	gem/bone jewellery	Gaborone	South East	3	3	100%
3	FCULU	BGI Tanning	game-skin tanning/skin mats	Francistown	North East	130	50	38%
31	FCUJG	Kalahari Gemstones	gemstone jewellery	Gaborone	South East	1	0	0%
46	FCRJC	Mokolodi Craft	clay & bone jewellery	Mokolodi	South East	9	9	100%
78	FCUJS	Thusano Silversmiths	silver jewellery	Gaborone	South East	3	3	100%
82	FCUWT	Weaves and Crafts	tapestries	Gaborone	South East	5	5	100%
		TOTALS				**151**	**70**	**46%**

APPENDIX 4.2

TRADITIONAL HANDICRAFT PRODUCERS IN BOTSWANA (AS OF NOVEMBER 1992)

SF NO.	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL*	FEMALE	FEMALES AS % OF TOTAL
13	ITRBB	Chobe District basket-weavers	basketry	Enclave/Panda	Chobe	170	160	94%
14	ITRPT	Chobe District pottery	pottery	Enclave	Chobe	1	1	100%
15	ITRCW	Chobe District woodcarvers	wood carvings	Enclave/Panda	Chobe	10	0	0%
21	ITRJT	Gantsicraft beadworkers	beadwork	throughout	Ghanzi	250	250	100%
22	ITRNR	Gantsicraft dance rattle producers	dance rattles	Xade	Ghanzi	30	0	0%
23	ITRLT	Gantsicraft skinworkers	skinwork/hunting sets	throughout	Ghanzi	220	0	0%
24	ITRCW	Gantsicraft thumb pianos producers	thumb pianos	throughout	Ghanzi	10	0	0%
25	ITRBM	Hambukushu matmakers (male)	*lethaka* mats	Etsha/Shakawe	Ngamiland	25	0	0%
26	ITRCW	Hambukushu woodworkers	thumb pianos, drums, axes, etc.	Etsha/Shakawe	Ngamiland	100	0	0%
27	ITRBM	Hambukushu wig makers	*dishukeka* wigs	Etsha/Shakawe	Ngamiland	25	25	100%
33	ITRJT	Kgalagadi beadworkers	ostrich eggshell beadwork	northern	Kgalagadi	150	150	100%
34	ITRLT	Kgalagadi skinworkers	skinwork	throughout	Kgalagadi	250	50	20%
36	ITRBB	Kgatleng basket-weavers	basketry	few scattered	Kgatleng	5	5	100%
37	ITRCW	Kgotla chair-makers (Central)	*kgotla* chairs	Dibete/Mahalapye	Central	5	0	0%
38	ITRCW	Kgotla chair-makers (other areas)	*kgotla* chairs	few scattered	throughout	20	0	0%
39	ITRBB	Kobojango area basket-weavers	basketry	Kobojango area	Central	50	40	80%
40	ITRJT	Kung San Works beadworkers	glass & eggshell beadwork	far western	Ngamiland	450	450	100%
41	ITRLT	Kung San Works skinworkers	skinwork/bow & arrow sets	far western	Ngamiland	200	0	0%
50	ITRPT	Mosetlha area potters	pottery	near Kanye	Southern	30	30	100%
53	ITRBB	Nata area basket-weavers	basketry	Nata area	Central	25	25	100%
54	ITRBB	Ngamiland (west) basket-weavers	basketry	near western	Ngamiland	2000	2000	100%
55	ITRBB	Ngamiland (Shorobe) basket-weavers	basketry	Shorobe area	Ngamiland	40	40	100%
57	ITRBB	North East District basket-weavers	basketry	scattered	North East	10	10	100%
64	FTRBB	Pudulogong School of the Blind	basketry	Mochudi	Kgatleng	32	30	94%
65	ITRBB	Serowe area basket-weavers	basketry	Serowe area	Central	20	20	100%
69	ITRLT	Shadishadi/Sojwe leatherworkers	tanning/leatherwork	Shadishadi/Sojwe	Kweneng	20	0	0%
71	ITRLT	Shoshong Development Trust matmakers	skinwork, especially mats	Shoshong area	Central	25	0	0%
72	ITRBB	Southern District basket-weavers	basketry	scattered	Southern	6	6	100%
		TOTALS				**4179**	**3292**	**79%**

APPENDIX 4.3

CONTEMPORARY HANDICRAFT PRODUCERS IN BOTSWANA (AS OF NOVEMBER 1992)

SF NO.	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL	FEMALE	FEMALES AS % OF TOTAL
1	FCUJG	A Rona Gemstones	gem/bone jewellery	Gaborone	South East	3	3	100%
2	FCUWT	Baikagi Weavers	tapestries	Lobatse	South East	10	10	100%
3	FCULU	BGI Tanning	game skin tanning/skin mats	Francistown	North East	130	50	38%
4	FCRLU	Blackie's	leatherwork	Pilane	Kgatleng	3	1	33%
5	FCRWT	Bokspits weavers	tapestries	Bokspits	Kgalagadi	15	15	100%
6	FCRLU	Botswana Leather Work	leatherwork	Pilane	Kgatleng	22	16	73%
7	FCRPB	Botswelelo Center - Thamaga Pottery	pottery	Thamaga	Kweneng	17	10	59%
8	FCULU	Bushman Products	game-skin products	Francistown	North East	32	26	81%
9	FCRLU	C.M. Leather Works	leatherwork	Pilane	Kgatleng	10	8	80%
10	FCRTB	Camphill textile workers	batik/silkscreen/tie & dye	Otse	South East	5	5	100%
11	FCRCM	Camphill hornworker	horn	Otse	South East	1	0	0%
12	FCRCW	Camphill woodworkers	wooden toys	Otse	South East	2	1	50%
16	FCRTP	D'kar sewing group	fabric painting & patchwork	D'kar	Ghanzi	5	5	100%
17	ICRTD	D'kar station Herero doll makers	Herero dolls	D'kar	Ghanzi	5	5	100%
18	FCRLU	D'kar tanners	tanning/leatherwork	D'kar	Ghanzi	13	0	0%
19	FCUWT	Fashion Enterprises	handknotted rugs	Selebi-Phikwe	Central	30	30	100%
20	FCRLU	Flora's Leather Works	leatherwork	Pilane	Kgatleng	7	5	71%
28	FCUPU	Hangale Pottery	pottery	Francistown	North East	1	1	100%
29	FCRJM	Ikgabiseng Coop	eggshell, gourd, metal jewellery	Pilane	Kgatleng	6	6	100%
30	FCUJM	J+D Jewellery	metal jewellery	Gaborone	South East	10	10	100%
31	FCUJG	Kalahari Gemstones	gemstone jewellery	Gaborone	South East	1	0	0%
32	FCUPU	Kanye Potters	pottery	Kanye	Southern	4	4	100%
35	FCULU	Kgalagadi Game Skin	game-skin products	Gaborone	South East	15	11	73%
42	FCRWT	Lentswe la Oodi Weavers	tapestries, bedspreads, etc.	Oodi	Kgatleng	41	37	90%
43	FCRJB	Lerapa Design	bone-carving/jewellery	Otse	Southern	4	4	100%
44	FCRLU	Mabutsane Tannery	tanning/leatherwork	Mabutsane	Southern	19	19	100%
45	FCUTP	Marothodi Design	silkscreen printing/sewing	Francistown	North East	35	33	94%

SF NO.	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL	FEMALE	FEMALES AS % OF TOTAL
46	FCRJC	Mokolodi Craft	clay & bone jewellery	Mokolodi	South East	9	9	100%
47	FCRTP	Mokolodi Craft	potato prints/wool toys	Mokolodi	South East	6	6	100%
48	FCRLU	Molefi Furs	leatherwork	Pilane	Kgatleng	11	7	64%
49	FCRLU	Molopo Leather	leatherwork	Molopo Farms	Kgalagadi	4	4	100%
51	FCUJS	Motanka Jewellery	silver jewellery	Gaborone	South East	4	4	100%
52	FCRPB	Motsetse Pottery	pottery	btw F/town & Nata	Central	2	2	100%
56	ICRTD	Ngamiland Herero doll-makers	Herero dolls	far western, Maun	Ngamiland	20	20	100%
58	FCUJG	Okavango Curios and Gemstones	jewellery	Gaborone	South East	2	1	50%
59	FCRPB	Pelagano Pottery	pottery	Gabane	Kweneng	7	7	100%
60	FCRNR	Pelagano Village Industries crafts	calabashes/cornhusk dolls	Gabane	Kweneng	3	3	100%
61	FCRTP	Phuthadikobo Museum	silkscreen printing/sewing	Mochudi	Kgatleng	12	8	67%
62	FCRLU	Pilane Tannery	tanning/leatherwork	Pilane	Kgatleng	60	30	50%
63	FCRJM	Pilane Tinsmiths	frames, jewellery, mobiles, etc.	Pilane	Kgatleng	6	6	100%
66	FCRPB	Serowe Pottery	pottery	Serowe	Central	3	2	67%
67	ICRCW	Serowe Woodcarvers	woodcarving	Serowe area	Central	30	1	3%
68	FCRPB	Serule Pottery	pottery	Serule	Central	4	2	50%
70	ICRCW	Shashe woodcarvers	woodcarving	Shashe area	Central	50	3	6%
73	FCRTD	Sunday's Clothes	Herero dolls	Pilane	Kgatleng	4	4	100%
74	ICRCW	Thamaga area woodcarvers	woodcarving	Thamaga area	Kweneng	10	0	0%
75	FCUJB	The Craftsman	bone/wood carving	Lobatse	South East	2	0	0%
76	FCRJB	Thusang Mosweu craftworker	bone/wood carving	Serowe	Central	1	0	0%
77	FCRPB	Thusano Pottery	pottery	Ramotswa	South East	3	3	100%
78	FCUJS	Thusano Silversmiths	silver jewellery	Gaborone	South East	3	3	100%
79	FCUWT	Tswana Weavers	tapestries/rugs	Francistown	North East	21	21	100%
80	FCRWT	Tswelelopele Handicraft School/Disabled	tapestries/rugs	Maun	Ngamiland	17	11	65%
81	FCUWT	United Design	rugs	Lobatse	South East	37	35	95%
82	FCUWT	Weaves and Crafts	tapestries	Gaborone	South East	5	5	100%
		TOTALS				**782**	**512**	**65%**

APPENDIX 4.4

RURAL HANDICRAFT PRODUCERS IN BOTSWANA (AS OF NOVEMBER 1992)

SF NO.	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL	FEMALE	FEMALES AS % OF TOTAL
4	FCRLU	Blackie's	leatherwork	Pilane	Kgatleng	3	1	33%
5	FCRWT	Bokspits weavers	tapestries	Bokspits	Kgalagadi	15	15	100%
6	FCRLU	Botswana Leather Work	leatherwork	Pilane	Kgatleng	22	16	73%
7	FCRPB	Botswelelo Center -- Thamaga Pottery	pottery	Thamaga	Kweneng	17	10	59%
9	FCRLU	C.M. Leather Works	leatherwork	Pilane	Kgatleng	10	8	80%
10	FCRTB	Camphill textile workers	batik/silkscreen/tie & dye	Otse	South East	5	5	100%
11	FCRCM	Camphill hornworkers	horn	Otse	South East	1	0	0%
12	FCRCW	Camphill woodworkers	wooden toys	Otse	South East	2	1	50%
13	ITRBB	Chobe District basket-weavers	basketry	Enclave/Panda	Chobe	170	160	94%
14	ITRPT	Chobe District pottery	pottery	Enclave	Chobe	1	1	100%
15	ITRCW	Chobe District woodcarvers	wood carvings	Enclave/Panda	Chobe	10	0	0%
16	FCRTP	D'kar sewing group	fabric painting & patchwork	D'kar	Ghanzi	5	5	100%
17	ICRTD	D'kar station Herero doll-makers	Herero dolls	D'kar	Ghanzi	5	5	100%
18	FCRLU	D'kar tanners	tanning/leatherwork	D'kar	Ghanzi	13	0	0%
20	FCRLU	Flora's Leather Works	leatherwork	Pilane	Kgatleng	7	5	71%
21	ITRJT	Gantsicraft beadworkers	beadwork	throughout	Ghanzi	250	250	100%
22	ITRNR	Gantsicraft dance rattle producers	dance rattles	Xade	Ghanzi	30	0	0%
23	ITRLT	Gantsicraft skinworkers	skinwork/hunting sets	throughout	Ghanzi	220	0	0%
24	ITRCW	Gantsicraft thumb pianos producers	thumb pianos	throughout	Ghanzi	10	0	0%
25	ITRBM	Hambukushu matmakers (male)	*lethaka* mats	Etsha/Shakawe	Ngamiland	25	0	0%
26	ITRCW	Hambukushu woodworkers	thumb pianos, drums, axes, etc.	Etsha/Shakawe	Ngamiland	100	0	0%
27	ITRBM	Hambukushu wig-makers	*dishukeka* wigs	Etsha/Shakawe	Ngamiland	25	25	100%
29	FCRJM	Ikgabiseng Coop	eggshell, gourd, metal jewellery	Pilane	Kgatleng	6	6	100%
33	ITRJT	Kgalagadi beadworkers	ostrich eggshell beadwork	northern	Kgalagadi	150	150	100%
34	ITRLT	Kgalagadi skinworkers	skinwork	throughout	Kgalagadi	250	50	20%
36	ITRBB	Kgatleng basket-weavers	basketry	few scattered	Kgatleng	5	5	100%
37	ITRCW	Kgotla chair-makers (Central)	*kgotla* chairs	Dibete/Mahalapye	Central	5	0	0%
38	ITRCW	Kgotla chair-makers (other areas)	*kgotla* chairs	few scattered	throughout	20	0	0%
39	ITRBB	Kobojango area basket-weavers	basketry	Kobojango area	Central	50	40	80%
40	ITRJT	Kung San Works beadworkers	glass & eggshell beadwork	far western	Ngamiland	450	450	100%
41	ITRLT	Kung San Works skinworkers	skinwork/bow & arrow sets	far western	Ngamiland	200	0	0%

SF NO.	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL	FEMALE	FEMALES AS % OF TOTAL
42	FCRWT	Lentswe la Oodi Weavers	tapestries, bedspreads, etc.	Oodi	Kgatleng	41	37	90%
43	FCRJB	Lerapa Design	bone carving/jewellery	Otse	Southern	4	4	100%
44	FCRLU	Mabutsane Tannery	tanning/leatherwork	Mabutsane	Southern	19	19	100%
46	FCRJC	Mokolodi Craft	clay & bone jewellery	Mokolodi	South East	9	9	100%
47	FCRTP	Mokolodi Craft	potato prints/wool toys	Mokolodi	South East	6	6	100%
48	FCRLU	Molefi Furs	leatherwork	Pilane	Kgatleng	11	7	64%
49	FCRLU	Molopo Leather	leatherwork	Molopo Farms	Kgalagadi	4	4	100%
50	ITRPT	Mosetlha area potters	pottery	near Kanye	Southern	30	30	100%
52	FCRPB	Motsetse Pottery	pottery	btw F/town & Nata	Central	2	2	100%
53	ITRBB	Nata area basket-weavers	basketry	Nata area	Central	25	25	100%
54	ITRBB	Ngamiland (west) basket-weavers	basketry	near western	Ngamiland	2000	2000	100%
55	ITRBB	Ngamiland (Shorobe) basket-weavers	basketry	Shorobe area	Ngamiland	40	40	100%
56	ICRTD	Ngamiland Herero doll-makers	Herero dolls	far western, Maun	Ngamiland	20	20	100%
57	ITRBB	North East District basket-weavers	basketry	scattered	North East	10	10	100%
59	FCRPB	Pelagano Pottery	pottery	Gabane	Kweneng	7	7	100%
60	FCRNR	Pelagano Village Industries crafts	calabashes/cornhusk dolls	Gabane	Kweneng	3	3	100%
61	FCRTP	Phuthadikobo Museum	silkscreen printing/sewing	Mochudi	Kgatleng	12	8	67%
62	FCRLU	Pilane Tannery	tanning/leatherwork	Pilane	Kgatleng	60	30	50%
63	FCRJM	Pilane Tinsmiths	frames, jewellery, mobiles, etc.	Pilane	Kgatleng	6	6	100%
64	FTRBB	Pudulogong School of the Blind	basketry	Mochudi	Kgatleng	32	30	94%
65	ITRBB	Serowe area basket-weavers	basketry	Serowe area	Central	20	20	100%
66	FCRPB	Serowe Pottery	pottery	Serowe	Central	3	2	67%
67	ICRCW	Serowe Woodcarvers	woodcarving	Serowe area	Central	30	1	3%
68	FCRPB	Serule Pottery	pottery	Serule	Central	4	2	50%
69	ITRLT	Shadishadi/Sojwe leatherworkers	tanning/leatherwork	Shadishadi/Sojwe	Kweneng	20	0	0%
70	ICRCW	Shashe woodcarvers	woodcarving	Shashe area	Central	50	3	6%
71	ITRLT	Shoshong Development Trust matmakers	skinwork, especially mats	Shoshong area	Central	25	0	0%
72	ITRBB	Southern District basket-weavers	basketry	scattered	Southern	6	6	100%
73	FCRTD	Sunday's Clothes	Herero dolls	Pilane	Kgatleng	4	4	100%
74	ICRCW	Thamaga area woodcarvers	woodcarving	Thamaga area	Kweneng	10	0	0%
76	FCRJB	Thusang Mosweu craftworker	bone/wood carving	Serowe	Central	1	0	0%
77	FCRPB	Thusano Pottery	pottery	Ramotswa	South East	3	3	100%
80	FCRWT	Tswelelopele Handicraft School/Disabled	tapestries/rugs	Maun	Ngamiland	17	11	65%
		TOTALS				**4616**	**3557**	**77%**

APPENDIX 4.5

URBAN HANDICRAFT PRODUCERS IN BOTSWANA (AS OF NOVEMBER 1992)

SF NO.	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL	FEMALE	FEMALES AS % OF TOTAL
1	FCUJG	A Rona Gemstones	gem/bone jewellery	Gaborone	South East	3	3	100%
2	FCUWT	Baikagi Weavers	tapestries	Lobatse	South East	10	10	100%
3	FCULU	BGI Tanning	game skin tanning/skin mats	Francistown	North East	130	50	38%
8	FCULU	Bushman Products	game skin products	Francistown	North East	32	26	81%
19	FCUWT	Fashion Enterprises	handknotted rugs	Selebi-Phikwe	Central	30	30	100%
28	FCUPU	Hangale Pottery	pottery	Francistown	North East	1	1	100%
30	FCUJM	J+D Jewellery	metal jewellery	Gaborone	South East	10	10	100%
31	FCUJG	Kalahari Gemstones	gemstone jewellery	Gaborone	South East	1	0	0%
32	FCUPU	Kanye Potters	pottery	Kanye	Southern	4	4	100%
35	FCULU	Kgalagadi Game Skin	game skin products	Gaborone	South East	15	11	73%
45	FCUTP	Marothodi Design	silkscreen printing/sewing	Francistown	North East	35	33	94%
51	FCUJS	Motanka Jewellery	silver jewellery	Gaborone	South East	4	4	100%
58	FCUJG	Okavango Curios and Gemstones	jewellery	Gaborone	South East	2	1	50%
75	FCUJB	The Craftsman	bone/wood carving	Lobatse	South East	2	0	0%
78	FCUJS	Thusano Silversmiths	silver jewellery	Gaborone	South East	3	3	100%
79	FCUWT	Tswana Weavers	tapestries/rugs	Francistown	North East	21	21	100%
81	FCUWT	United Design	rugs	Lobatse	South East	37	35	95%
82	FCUWT	Weaves and Crafts	tapestries	Gaborone	South East	5	5	100%
		TOTALS				**345**	**247**	**72%**

APPENDIX 4.6

INFORMAL HANDICRAFT PRODUCERS IN BOTSWANA (AS OF NOVEMBER 1992)

SF NO.	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL	FEMALE	FEMALES AS % OF TOTAL
13	ITRBB	Chobe District basket-weavers	basketry	Enclave/Panda	Chobe	170	160	94%
14	ITRPT	Chobe District pottery	pottery	Enclave	Chobe	1	1	100%
15	ITRCW	Chobe District woodcarvers	wood carvings	Enclave/Panda	Chobe	10	0	0%
17	ICRTD	D'kar station Herero doll-makers	Herero dolls	D'kar	Ghanzi	5	5	100%
21	ITRJT	Gantsicraft beadworkers	beadwork	throughout	Ghanzi	250	250	100%
22	ITRNR	Gantsicraft dance rattle producers	dance rattles	Xade	Ghanzi	30	0	0%
23	ITRLT	Gantsicraft skinworkers	skinwork/hunting sets	throughout	Ghanzi	220	0	0%
24	ITRCW	Gantsicraft thumb pianos producers	thumb pianos	throughout	Ghanzi	10	0	0%
25	ITRBM	Hambukushu matmakers (male)	*lethaka* mats	Etsha/Shakawe	Ngamiland	25	0	0%
26	ITRCW	Hambukushu woodworkers	thumb pianos, drums, axes, etc.	Etsha/Shakawe	Ngamiland	100	0	0%
27	ITRBM	Hambukushu wig-makers	*dishukeka* wigs	Etsha/Shakawe	Ngamiland	25	25	100%
33	ITRJT	Kgalagadi beadworkers	ostrich eggshell beadwork	northern	Kgalagadi	150	150	100%
34	ITRLT	Kgalagadi skinworkers	skinwork	throughout	Kgalagadi	250	50	20%
36	ITRBB	Kgatleng basket-weavers	basketry	few scattered	Kgatleng	5	5	100%
37	ITRCW	Kgotla chair-makers (Central)	*kgotla* chairs	Dibete/Mahalapye	Central	5	0	0%
38	ITRCW	Kgotla chair-makers (other areas)	*kgotla* chairs	few scattered	throughout	20	0	0%
39	ITRBB	Kobojango area basket-weavers	basketry	Kobojango area	Central	50	40	80%
40	ITRJT	Kung San Works beadworkers	glass & eggshell beadwork	far western	Ngamiland	450	450	100%
41	ITRLT	Kung San Works skinworkers	skinwork/bow & arrow sets	far western	Ngamiland	200	0	0%
50	ITRPT	Mosetlha area potters	pottery	near Kanye	Southern	30	30	100%
53	ITRBB	Nata area basket-weavers	basketry	Nata area	Central	25	25	100%
54	ITRBB	Ngamiland (west) basket-weavers	basketry	near western	Ngamiland	2000	2000	100%
55	ITRBB	Ngamiland (Shorobe) basket-weavers	basketry	Shorobe area	Ngamiland	40	40	100%
56	ICRTD	Ngamiland Herero doll-makers	Herero dolls	far western, Maun	Ngamiland	20	20	100%
57	ITRBB	North East District basket-weavers	basketry	scattered	North East	10	10	100%
65	ITRBB	Serowe area basket-weavers	basketry	Serowe area	Central	20	20	100%
67	ICRCW	Serowe Woodcarvers	woodcarving	Serowe area	Central	30	1	3%
69	ITRLT	Shadishadi/Sojwe leatherworkers	tanning/leatherwork	Shadishadi/Sojwe	Kweneng	20	0	0%
70	ICRCW	Shashe woodcarvers	woodcarving	Shashe area	Central	50	3	6%
71	ITRLT	Shoshong Development Trust matmakers	skinwork, especially mats	Shoshong area	Central	25	0	0%
72	ITRBB	Southern District basket-weavers	basketry	scattered	Southern	6	6	100%
74	ICRCW	Thamaga area woodcarvers	woodcarving	Thamaga area	Kweneng	10	0	0%
		TOTALS				**4262**	**3291**	**77%**

APPENDIX 4.7

FORMAL HANDICRAFT PRODUCERS IN BOTSWANA (AS OF NOVEMBER 1992)

SF NO.	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL	FEMALE	FEMALES AS % OF TOTAL
1	FCUJG	A Rona Gemstones	gem/bone jewellery	Gaborone	South East	3	3	100%
2	FCUWT	Baikagi Weavers	tapestries	Lobatse	South East	10	10	100%
3	FCULU	BGI Tanning	game skin tanning/skin mats	Francistown	North East	130	50	38%
4	FCRLU	Blackie's	leatherwork	Pilane	Kgatleng	3	1	33%
5	FCRWT	Bokspits weavers	tapestries	Bokspits	Kgalagadi	15	15	100%
6	FCRLU	Botswana Leather Work	leatherwork	Pilane	Kgatleng	22	16	73%
7	FCRPB	Botswelelo Center -- Thamaga Pottery	pottery	Thamaga	Kweneng	17	10	59%
8	FCULU	Bushman Products	game skin products	Francistown	North East	32	26	81%
9	FCRLU	C.M. Leather Works	leatherwork	Pilane	Kgatleng	10	8	80%
10	FCRTB	Camphill textile workers	batik/silkscreen/tie & dye	Otse	South East	5	5	100%
11	FCRCM	Camphill hornworkers	horn	Otse	South East	1	0	0%
12	FCRCW	Camphill woodworkers	wooden toys	Otse	South East	2	1	50%
16	FCRTP	D'kar sewing group	fabric painting & patchwork	D'kar	Ghanzi	5	5	100%
18	FCRLU	D'kar tanners	tanning/leatherwork	D'kar	Ghanzi	13	0	0%
19	FCUWT	Fashion Enterprises	handknotted rugs	Selebi-Phikwe	Central	30	30	100%
20	FCRLU	Flora's Leather Works	leatherwork	Pilane	Kgatleng	7	5	71%
28	FCUPU	Hangale Pottery	pottery	Francistown	North East	1	1	100%
29	FCRJM	Ikgabiseng Coop	eggshell, gourd, metal jewellery	Pilane	Kgatleng	6	6	100%
30	FCUJM	J+D Jewellery	metal jewellery	Gaborone	South East	10	10	100%
31	FCUJG	Kalahari Gemstones	gemstone jewellery	Gaborone	South East	1	0	0%
32	FCUPU	Kanye Potters	pottery	Kanye	Southern	4	4	100%
35	FCULU	Kgalagadi Game Skin	game skin products	Gaborone	South East	15	11	73%
42	FCRWT	Lentswe la Oodi Weavers	tapestries, bedspreads, etc.	Oodi	Kgatleng	41	37	90%
43	FCRJB	Lerapa Design	bone-carving/jewellery	Otse	Southern	4	4	100%
44	FCRLU	Mabutsane Tannery	tanning/leatherwork	Mabutsane	Southern	19	19	100%
45	FCUTP	Marothodi Design	silkscreen printing/sewing	Francistown	North East	35	33	94%
46	FCRJC	Mokolodi Craft	clay & bone jewellery	Mokolodi	South East	9	9	100%
47	FCRTP	Mokolodi Craft	potato prints/wool toys	Mokolodi	South East	6	6	100%

SF NO.	CODE	PRODUCER GROUPINGS	TYPE OF CRAFT	LOCATION	DISTRICT	TOTAL	FEMALE	FEMALES AS % OF TOTAL
48	FCRLU	Molefi Furs	leatherwork	Pilane	Kgatleng	11	7	64%
49	FCRLU	Molopo Leather	leatherwork	Molopo Farms	Kgalagadi	4	4	100%
51	FCUJS	Motanka Jewellery	silver jewellery	Gaborone	South East	4	4	100%
52	FCRPB	Motsetse Pottery	pottery	btw F/town & Nata	Central	2	2	100%
58	FCUJG	Okavango Curios and Gemstones	jewellery	Gaborone	South East	2	1	50%
59	FCRPB	Pelagano Pottery	pottery	Gabane	Kweneng	7	7	100%
60	FCRNR	Pelagano Village Industries crafts	calabashes/cornhusk dolls	Gabane	Kweneng	3	3	100%
61	FCRTP	Phuthadikobo Museum	silkscreen printing/sewing	Mochudi	Kgatleng	12	8	67%
62	FCRLU	Pilane Tannery	tanning/leatherwork	Pilane	Kgatleng	60	30	50%
63	FCRJM	Pilane Tinsmiths	frames, jewellery, mobiles, etc.	Pilane	Kgatleng	6	6	100%
64	FTRBB	Pudulogong School of the Blind	basketry	Mochudi	Kgatleng	32	30	94%
66	FCRPB	Serowe Pottery	pottery	Serowe	Central	3	2	67%
68	FCRPB	Serule Pottery	pottery	Serule	Central	4	2	50%
73	FCRTD	Sunday's Clothes	Herero dolls	Pilane	Kgatleng	4	4	100%
75	FCUJB	The Craftsman	bone/wood carving	Lobatse	South East	2	0	0%
76	FCRJB	Thusang Mosweu craftworker	bone/wood carving	Serowe	Central	1	0	0%
77	FCRPB	Thusano Pottery	pottery	Ramotswa	South East	3	3	100%
78	FCUJS	Thusano Silversmiths	silver jewellery	Gaborone	South East	3	3	100%
79	FCUWT	Tswana Weavers	tapestries/rugs	Francistown	North East	21	21	100%
80	FCRWT	Tswelelopele Handicraft School/Disabled	tapestries/rugs	Maun	Ngamiland	17	11	65%
81	FCUWT	United Design	rugs	Lobatse	South East	37	35	95%
82	FCUWT	Weaves and Crafts	tapestries	Gaborone	South East	5	5	100%
c	FCUWT	Tiro ya Diatla	tapestries/rugs	Lobatse	South East	13	13	100%
		TOTALS				**712**	**526**	**74%**

APPENDIX 4.8

CRAFT MARKETING OUTLETS IN BOTSWANA (AS OF NOVEMBER 1992)

CODES: R = retail shop, W = wholesaler, E = exports, G = gallery/exhibitions, M = museum on premises, P = packing

NO.	NAME	ADDRESS	TYPE
1.	Camphill	Box 2224, Gaborone	R W E G
2.	Botswanacraft	Box 486, Gaborone	R W E
3.	Ditso Curio Shop	Box 40588, Gaborone	R E P
4.	Bushman Gift Shop	Box 1344, Gaborone	R P
5.	Sunbird Curios	Box 1344, Gaborone	R P
6.	National Museum and Art Gallery Craft Shop	P/Bag 00114, Gaborone	R M
7.	McGregor's Limpopo Trading Company	Gaborone	W E
8.	Serowe Woodcarvers	Box 685, Serowe	R W
9.	Khama III Memorial Museum Craft Shop	P/Bag 8, Serowe	R M
10.	Phuthadikobo Museum Craft Shop	Box 367, Mochudi	R W M
11.	BGI Tanning Company (Pty) Ltd	P/Bag F58, Francistown	R W E P
12.	Bushman Products	Box 331 Francistown	R W E
13.	Bushman Curio Shop	Box 39, Maun	R W E P
14.	Curios Botswana	Box 331, Gaborone	closed
15.	Chobe Game Lodge	Box 32, Kasane	R
16.	Chobe Chilwero	Linyanti Explorations Box 22, Kasane	R
17.	The Gallery	Box 236, Maun	R W G P
18.	Diteko Shop	Kasane Enterprises Box 55, Kasane	closed
19.	Kubu Lodge	Box 43, Kasane	R G
20.	Mokolodi Craft	Box 1553, Gaborone	R W E P
21.	Pelagano Village Industries	Box 464, Gaborone	R W E G P
22.	BGI Ltd.	Box 39, Maun	R W E G P

Appendix 4.8

NO.	NAME	ADDRESS	TYPE
23.	Riley's Hotel Shop	Box 1, Maun	R
24.	Kung San Works	P/Bag 0031, Maun	R W E
25.	Kuru Development Trust Shop	Box 219, Ghanzi	R W
26.	Tsabong Oasis	Box 266, Tsabong	R W
27.	Island Safari Lodge	Box 116, Maun	R
28.	Nata Lodge	P/Bag 10, Francistown	R
29.	Mahalapye Development Trust	Box 291, Mahalapye	R W
30.	Gantsicraft	Box 196, Ghanzi	R W E M
31.	Chobe Safari Lodge	Box 698, Kasane	R
32.	Botswana Christian Council	Box 355, Gaborone	W E P
33.	Gallery Ann	Box 1675, Gaborone	R G
34.	Marothodi	Box 836, Francistown	R W
35.	Ngwao ya Nkoma	Lobatse	R
36.	Shoshong Development Trust	Box 228, Shoshong	R W
37.	Nata Wholesale Centre	P/Bag F88, Francistown	R
38.	Lotsane River Enterprises	Box 112, Palapye	R
39.	Mekgabo Modern Fashions and Curio Enterprises	Box 1313, Gaborone	R
40.	Gunn's Camp	Trans-Okavango P/Bag 33, Maun	R
41.	Tsaro Lodge	Tsaro Photograhic Safaris (Pty) Ltd.	R
42.	Khwai River Lodge	c/o Gametrackers, Botswana, Box 100, Maun	R
43.	Santawani	c/o Gametrackers, Botswana, Box 100, Maun	R
44.	Okavango River Lodge	Box 32, Maun	R
45.	Botswelo Centre - Thamaga Pottery Shop	Box 101, Thamaga	R W E P
46.	Tiro ya Diatla Shop	Box 165, Lobatse	closed
47.	Lentswe la Oodi Weavers Shop	Box 252, Gaborone	R W E P
48.	Botswana Leather Works Shop		

APPENDIX 4.9

NATURAL RESOURCES USED FOR HANDICRAFT PRODUCTION IN BOTSWANA

TABLE 1. NATURAL RESOURCES USED IN BASKETRY

SCIENTIFIC (ENGLISH)	S=SETSWANA T=THIMBUKUSHU SU=SESUBIYA Y=SEYEI	AREA UTILISED	PART UTILISED	PRODUCTS MADE
Hyphaene petersiana (palm)	*mokola* or *mokolwane* or *mokolane* (S)/ *mbare* (T)/ *lwabu* (SU)	Ngamiland, Chobe, Central	leaf material for basketry and binding	baskets, tablemats, beer strainers
	ditsitsiri (Y)	Ngamiland	edge of leaf	inside core of basket coil
Euclea divinorum	*motlhakola* or *mothakola* (S)/ *mushitondo* (T)	Ngamiland, Central	root bark to dye palm fibre dark brown	for dyeing baskets, tablemats, beer strainers
Berchemia discolor	*motsentsila* or *motsentsela* (S)/ *mukurete* (T)/ *izie* (SU)	Ngamiland, Chobe, Central	root and trunk bark to dye palm fibre red-brown	for dyeing baskets, tablemats, beer strainers
Indigofera tinctoria	*mohetsola* or *mhetola* (S)/ *mohetola* (T)	Ngamiland, Chobe, Central	leaves to dye palm light purple	for dyeing baskets, etc.
Sorghum bicolor (sorghum)	*mabele* (S)/ *tumbi* (T)/ *mahira* (SU)	throughout Botswana	dark red discolouration on leaves and stalk to dye palm pink	for dyeing baskets, etc.
Pennisetum typhoides (millet)	*lebelebele* (S)/ *mahangu* (T)/ *mauza* (SU)			
Zea mays (maize)	*mmidi* (S)/ *mundalye* (SU)			
Sorghum sp. (sweet reed)	*nche* (S)/ *tjihuma* (T)			
Diospyros lycioides	*letlhajwa* or *lethajwa* (S)/ *muvitji* (T)/ *mosigantambo* (SU)	Ngamiland	roots and leaves to dye palm yellow-brown	for dyeing baskets, etc.
Combretum imberbe	*motswere* or *motswiri* (S)	Ngamiland	roots and leaves to dye palm yellow-brown	for dyeing baskets, etc.

SCIENTIFIC (ENGLISH)	S=SETSWANA T=THIMBUKUSHU SU=SESUBIYA Y=SEYEI	AREA UTILISED	PART UTILISED	PRODUCTS MADE
Charcoal (various tree species)	*magala* (S)/ *makala* (SU)	Chobe	pounded with Berchemia bark to make black or dark grey colour	for dyeing baskets, etc.
cf. Steganotaenia araliacea	*mukura* or *mukurwa* or *mukurathiku* (T)	Ngamiland	root bark to dye palm pinkish-brown	for dyeing baskets, etc.
?	*mukokothi* or *mukongothi* or *mukongotji* (T)	Ngamiland	roots to dye palm light orange-brown	for dyeing baskets, etc.
Garcinia livingstonei	motsaudi (S)	Ngamiland	root bark to dye palm yellow-brown	for dyeing baskets, etc.
Eragrostis pallens	*motsikiri* (S)/ *muhonyi* or *mushange* (T)	Ngamiland Central	culms of the grass	inside core of basket coil, body of fish traps
?	*tshikitsane* (S)	Central	culms of grass	inside core of basket coil
Cocculus hirsutus	*motsoketsane* (S)/ *dighuruwe* (T)/ *lexhi* (Y)	Ngamiland	stems of the vine	inside core of basket coil, tablemats
Cyperus papyrus	*koma* (S)/ *mukoma* (T) / *ngwara* (SU)	Ngamiland, Chobe	stems of the reed	sleeping mats
Phragmites australis	*letlhaka*, *lethaka* or *letlhakana* (S)/ *mbu* (T) / *mpe* (SU)	Ngamiland, Chobe	stems of the reed	mats, fences, walls
Sterculia tomeutosa (africana)	*mokokobuyu* (S)	Okavango	bark	mats
Triraphis cf. andropogonoides or Eragrotis trichophora	*motsekedi* (S)	Ghanzi	culms of the grass	sieves
Sansevieria cf. desertii	*mokotsi* or *mokgotse* (S)/ *munguhe* (T)	Ngamiland	leaf fibre for rolling twine	twine for sewing mats, wigs

Appendix 4.9

SCIENTIFIC (ENGLISH)	S=SETSWANA T=THIMBUKUSHU SU=SESUBIYA Y=SEYEI	AREA UTILISED	PART UTILISED	PRODUCTS MADE
Sansevieria cf. scabrifolia		Ghanzi	leave fibre for rolling twine	twine for sewing sieves and snares
Adansonia digitata	*mowana* (S)	northern Botswana	bark	twine
Terminalia sericea	*mogonono* (S)/ *mushosho* (T)	Ngamiland, Kgalagadi	bark rolled into fibre	twine for sewing sieves, wigs
Grewia retinervis	*motsotsojane* (S)	Ngamiland	branches	fish traps
?	*mukudi* (T)	Ngamiland	branches	fish traps
Hibiscus caesius		Okavango	bark	fish nets
Acacia fleckii	*mhahu* or *mokoko* (S)/ *mukona* (T)	Central	slices of roots	twilled weave of *leselo* winnowing baskets
Acacia mellifera	*mongana* (S)	Central	slices of roots	twilled weave of *leselo* winnowing baskets
Acacia nigrescens	*mokoba* (S)	Central	slices of roots	twilled weave of *leselo* winnowing baskets
Albizia anthelmintica	*monoga* (S)	Central	branches	twilled weave of *leselo* winnowing baskets
Lannea discolor	*mootswana* (S)	Central	slices of roots	twilled weave of *leselo* winnowing
Rhus tenuinervis	*modupaphiri* or *morupaphiri* (S)	Central	slices of roots	twilled weave of *leselo* winnowing baskets

Appendix 4.9

SCIENTIFIC (ENGLISH)	S=SETSWANA T=THIMBUKUSHU SU=SESUBIYA Y=SEYEI	AREA UTILISED	PART UTILISED	PRODUCTS MADE
Grewia flavescens	*mokgomphatha* (S)	Central	branches	rims of *leselo* winnowing baskets
	mupundu (T)	Ngamiland		fish traps
?	*sekanama*	Central	tuber root	rubbed on *leselo* to fill up gaps
Grewia flava	*moretlwa* (S)	Central	branches	baskets
			bark of branches	wrapping material for baskets
Grewia bicolor	*mogwana* (S)	Central	bark of branches	wrapping material for baskets
Combretum zeyheri	*mukenge*(T)	Ngamiland	bark of tree	for fibre weaving around Hambukushu clay pots
Combretum albopunctatum	*mufufu* (T)	Ngamiland	root fibres	*mashukeka* wigs
Ficus natalensis	*mutata* (T)	Ngamiland	root fibres	*mashukeka* wigs
Ficus sycomorus	*motshaba* (S)/ *mukuyu* (T)	Ngamiland	root fibres	*mashukeka* wigs
?	*mukambakamba* (T)	Ngamiland	root fibres	*mashukeka* wigs
?	*mafou* (T)	Ngamiland	root fibres	*mashukeka* wigs
Ricinus communis	*mokhure* (S)/ *mmono* or *mono* (T)	Ngamiland	seed oil	soften and preserve *mashukeka* wigs fibre
Ximenia cf. americana	kakukuru (Gciriku)	Ngamiland	seeds? roots?	powder to soften and dye wig fibre a reddish colour

TABLE 2. NATURAL RESOURCES USED IN WOODCARVING

SCIENTIFIC	S=SETSWANA T=THIMBUKUSHU	AREA UTILISED	TYPE OF PRODUCT	PRODUCTS MADE
Acacia erioloba	*mogotlho* or *mogotho* (S)/ *muthu* (T)	Central	carved products	pestles
Acacia erubescens	*moloto* (S)	Central	lathe-turned products	candlesticks, ashtrays
Acacia nigrescens	*mokoba* or *mokgoba* (S)	Central	carved products	pestles
Acacia mellifera	*mongana* (S)	Central, Kweneng	carved products	mortars
Albizia anthelmintica	*monoga* (S) *mudhirudhiru* (T)	Ngamiland Ghanzi	carved products	thumb piano bases
Albizia versicolor	*mukongotji* (T)	Ngamiland	carved products	animal figurines, thumb piano bases, drums, bellows
Baikiaea plurijuga	*mokusi* (S)/ *mukuthi* (T)	Ngamiland	carved products	*mekoro* canoes
Bolusanthus speciosus	*motsokaphala* (S)	Central	furniture	chairs
Boscia albitrunca	*motlope* or *motope* (S)/ *mohepu* (T)/ *lekwati*	Central, Ngamiland	carved products	animal/ human figurines, spoons, thumb piano bases, stools, *thughu* pounding tool
Bridelia mollis	*mokopokopo* or *mokokonane* (S)	Central	carved products	figurines
Burkea africana	*monato* (S)/ *musheshe* or *muhuhe* (T)	Ngamiland	carved products	drums, bowls, milk buckets, thumb piano bases, stools, mortars, bellows, animal figurines

Appendix 4.9

SCIENTIFIC	S=SETSWANA T=THIMBUKUSHU	AREA UTILISED	TYPE OF PRODUCT	PRODUCTS MADE
Colophospermum mopane	*mophane* (S)/ *mupanyi* (T)	Central, Ngamiland	lathe-turned and carved products	ashtrays, sugar pots, serviette rings, bracelets, rings, walking sticks, animal figurines, pestles, tool handles
Combretum apiculatum	*mohudiri* (S)	Ngamiland	carved products	etched plaques
Combretum collinum or C. zeyheri	*modubana* (S)/ *mupupu* (T)	Ngamiland	carved products	knife sheaths, mortars, bellows, tool handles
Combretum imberbe	*motswere* or *motswiri* (S)/ *muyondo* (T)	Central, Ngamiland	carved products	tool handles, mortars, thumb piano bases, *thughu* pounding tools
Commiphora sp.	*mokomoto* or *seroka* (S) depending on species *muvovo* (T)	Central, Ngamiland	carved products	animals and human figurines, cars, planes, drums
Commiphora marlothii	*mophaphama* (S)	Central	carved products	animal figurines
Croton megalobotrys	*motshebi* or *motshebe* (S)/ *murongo* (T)	Ngamiland	carved products	animal and human figurines, thumb piano bases, milk buckets
Diospyros mespiliformis	*mokutshumo* or *mokutsomo* (S)/ *mutunda* or *ghuthunda* (T)	Ngamiland	carved products	*mekoro* canoes, beer barrels
Ehretia rigida	*morobe* (S)	Central	carved products	*diphetlho* stirring sticks
Ficus sycomorus	*motshaba* (S)/ *mukuyu* (T)	Ngamiland	carved products	drums, tool handles
Gardenia resiniflua	*morala* (S)	Central	carved products	spoons, bowls

Appendix 4.9

SCIENTIFIC	S=SETSWANA T=THIMBUKUSHU	AREA UTILISED	TYPE OF PRODUCT	PRODUCTS MADE
Grewia bicolor	*mogwana* (S)	Central	carved products	*diphetlho* porridge stirrers
Kigelia africana	*moporota* (S)/ *muvunguvungu* (T)	Ngamiland	carved products	*mekoro* canoes, beer barrels
Kirkia acuminata	*modumela* (S)	Central, Chobe	carved products	animal and human figurines, spoons, bowls, candlesticks, toy chairs
Lonchocarpus nelsii	*mohatha* or *mogatha* or *mhata* (S)/ *mukororo* (T)	Central, Ngamiland	carved products	spoons, animal and human figurines, thumb piano bases, pestles, *mekoro* canoes, *thughu* pounding tools, bellows, tool handles, knife sheaths
L. capassa	*mopororo* (S)/ *mukororo* (T)			
Olea africana	*mothware* or *motlhware*	Central	carved products	spoons, figurines
Ozoroa paniculosa	*monokane* or *monokwane* (S)	Central	carved products	figurines
Peltophorum africanum	*mosetlha* (S)	Kweneng	carved products	mortars, milk buckets
Pterocarpus angolensis	*mukwa* or *morotomadi* (S)/ *mughuwa* or *mughuva*(T)	Ngamiland, Chobe	carved products and furniture	toy and real *mekoro* canoes, drums, thumb pianos base, plaques, spoons, tool handles, knife sheaths, bowls, mortars, milk buckets, bellows, chairs, tables
Rhus lancea	*mosilabele* (S)	South East	furniture	*kgotla* chairs

SCIENTIFIC	S=SETSWANA T=THIMBUKUSHU	AREA UTILISED	TYPE OF PRODUCT	PRODUCTS MADE
Ricinodendron rautanenii	*mongongo* or *mokongwa* (S)/ *mughongo* (T)/ *manghetti* (Afrikaans)	Central, Ngamiland	carved products	stools, *mekoro* canoes
Sclerocarya birrea	*morula* (S)/ *murwa* (T)	Central, Kweneng, Ngamiland	carved products	bowls, mortars, chairs, toy *mekoro* canoes, etched plaques, milk buckets, beer barrels, spoons, animal and human figurines, bellows
Spirostachys africana	*morukuru* (S)/ *mushongo* (T)/ *tamboti* (Afrikaans)	Central, Southern	furniture	*kgotla* chairs
Terminalia sericea	*mogonono* (S)/ *mushosho* (T)	Ngamiland	carved products	stools, drums, tool handles, etched plaques
?	*monomane* (S)	Central	carved products	spoons

TABLE 3. NATURAL RESOURCES USED IN BUSHMAN HANDICRAFTS AND VARIOUS GAME-SKIN CRAFTS

SCIENTIFIC (ENGLISH)	SETSWANA	AREA UTILISED	PART UTILISED	PRODUCT MADE
Antidorcas marsupialis (springbok)	*tshepe*	Central, Ghanzi, Kweneng, Kgalagadi, Ngamiland, Southern	dehaired skin	carrying bags, dancing skirts
			with hair	runner mats
			sinew	sewing thread
Alcelaphus buselaphus (hartebeest)	*kgama*	" "	dehaired skin	cloaks, carrying bags, shoes, belts, bags, chair covers
			sinew	sewing thread

Appendix 4.9

SCIENTIFIC (ENGLISH)	SETSWANA	AREA UTILISED	PART UTILISED	PRODUCT MADE
Oryx gazella (gemsbok)	*kukama*	" "	dehaired skin	cloak, sandals, stock whips, riems
			sinew (best)	sewing thread
Sylvicapra grimmia (duiker)	*phuti*	" "	dehaired skin	hunting-set bags, aprons, mats, hind skirts
			leg bone	pipes
Raphicerus campestris (steenbok)	*phuduhudu*	" "	dehaired skin	hunting-set bags, mats, breech-cloths, aprons, other leather clothing
			leg bone	pipes
			sinew	sewing thread
Taurotragus oryx (eland)	*phofu* or *phohu*	" "	dehaired skin	cloaks, riems
			sinew (best)	sewing thread
Tragelaphus strepsiceros (kudu)	*tholo*	Kgalagadi	skin	saddles, white edge of skin mats
Kobus leche (lechwe)	*letswee*	Okavango	skin	women's hind skirts
Canis mesomelas (black-backed jackal)	*phokoje*	Central, Ghanzi, Kweneng, Kgalagadi, Southern	fur	karosses, bags, hats, mats, cushions
Otocyon megalotis (bat-eared fox)	*motlhose*	" "	fur	" "
Genetta genetta and G. tigrina (genet)	*tshipa*	" "	fur	" "
Felis caracal (caracal)	*thwane*	" "	fur	" "
Felis lybica (wildcat)	*phage*	" "	fur	" "
Ictonyx striatus (striped polecat or zorilla)	*nakedi*	Central	fur	mats

Appendix 4.9

SCIENTIFIC (ENGLISH)	SETSWANA	AREA UTILISED	PART UTILISED	PRODUCT MADE
Procavia capensis (dassie)	*pela*	North East	skin	karosses
Vulpes chama (Cape fox)	*lesie*	Kgalagadi	skin	karosses
Felis nigripes (black footed cat)	*sebalabolo-kwane*	Kgalagadi, Ghanzi	skin	small bags for divining dice
Aepyceros melampus (impala)	*phala*	Central, Ghanzi, Kweneng, Kgalagadi, Ngamiland, Southern	fur	mats
Geochelone pardalis (leopard tortoise)	*khudu*	" "	shell	cosmetic holders 'powder puffs'
Psammobates oculifer (Kalahari or serrated tortoise)	*khudu* or *khuru* or *khakha*	" "		
Connochaetes taurinus (wildebeest)	*kgokong*	" "	tail hair	fly whisks, bangles,
			skin	mats
Pedetes capensis (springhare)	*ntlole* or *tshipo*	Ghanzi, Kgalagadi	metatarsal bones	to decorate aprons and baby carriers
Struthio camelus (ostrich)	*nche*	Ghanzi, Kgalagadi, Ngamiland	hatched eggshell	beads
			leg bones	knives for cutting melons
			sinew	sewing thread
Hystrix africaeaustralis (porcupine)	*noko*	Central, Ghanzi, Kweneng, Kgalagadi, Ngamiland, Southern	quills	beads

Appendix 4.9

SCIENTIFIC (ENGLISH)	SETSWANA	AREA UTILISED	PART UTILISED	PRODUCT MADE
Gonometa postica [on Acacia, usually A. mellifera] Gonometa rufobrunnea [on C. mopane] (moth cocoons)	*letlhawa*	Ghanzi, Central	cocoon	dance rattles
Anthoscopus minutus (penduline tit)		Ghanzi	nest	tobacco pouches
Elephantorrhiza elephantina	*motsetsane* or *mositsane*	Ghanzi, Kgalagadi	root	tanning agent and red dye for skins
		Kgalagadi	seeds	beads
Terminalia sericea	*mogonono*	Central, Kgalagadi	roots	yellow dye for skins
?	*seswagadi*	Central	roots	maroon dye for skins
Combretum hereroense	*mokabi* or *mokabe*	Central	roots	yellow dye for skins
?	*kalaka*	Ghanzi		dye for skins
charcoal (various tree species)	*magala*	Kgalagadi	crushed	black dye for skins and for etching ostrich eggs
Ximenia cf. americana	*moretologa* or *morotologa/ kakukuru* (Gciriku)	Ngamiland	fruit	red dye for etching ostrich eggs
			seeds	oil to soften skins
Acacia nilotica	*mokhe*	Ghanzi	root bark	quivers
Acacia tortilis	*mosu* or *moshu*	Ngamiland		
Acacia luederitzii	*mokgwele-kgwele*	Ngamiland, Ghanzi		
Grewia flava	*moretlwa*	Ghanzi, Ngamiland	branches	bows, musical bows, girls' initiation sticks, arrow link-shafts, spears, clubs
Grewia bicolor	*mogwana*	Ngamiland	branches	bows

Appendix 4.9

SCIENTIFIC (ENGLISH)	SETSWANA	AREA UTILISED	PART UTILISED	PRODUCT MADE
Grewia retinervis	*motsotsojane*	Ghanzi	wood	fire drill base, ostrich eggshell drill handle
Acacia luederitzii	*mokala* or *mokgwele-kgwele*	Ghanzi	wood	mortars
Albizia anthelmintica	*monoga*	Ghanzi	trunk	mortars, thumb piano bases
Anthephora pubescens		Ghanzi	culm	arrow shafts
Boscia albitrunca	*motlope*	Ghanzi	trunk and branches	pestles, tool handles
Catophractes alexandri	*mophuratshu-kudu*	Ghanzi	branches	fire drills
Lonchocarpus nelsii	*mohatha*	Ghanzi	wood	pestles, tool handles
Rhigozum brevispinosum	*mohurokwane*	Ghanzi	branches	digging sticks
Terminalia sericea	*mogonono*	Ghanzi	wood bark fibre	ash shovels, needle handles rope
Ziziphus mucronata	*mokgalo*	Ghanzi	branches	spear handles
Acacia luederitzii	*mokala* or *mokgwele-kgwele*	Ghanzi	gum	glue for arrow shafts
Pergularia extensa	*ga !obe* (!Ko Sesarwa)	Ghanzi	'cotton wool'	stuffing closure for tortoise shell 'powder puffs' and pipes
Abrus precatorius	*mophethe*, *mopete*, or *mopitipiti*	Okavango	seeds	beads
Acacia erioloba	*mogotlho* or *mogothol muthu* (T)	Ngamiland	seeds	beads
Acacia luederitzii	*mokala* or *mokgwele-kgwele*	Kgalagadi	seeds	beads

Appendix 4.9

SCIENTIFIC (ENGLISH)	SETSWANA	AREA UTILISED	PART UTILISED	PRODUCT MADE
Afzelia quanzensis	*muwande* or *mukamba*	North East	seeds	beads
?	*gwachi* (Sekgalagadi)	Kgalagadi	branches	beads
?	*lenyai*	Kgalagadi	branches	beads
cf. Rubiaceae	*thokwani*	Ngamiland	branches	beads
Cyperus sp.	*dau*	Ngamiland	roots	beads
Phoenix reclinata	*tsaro*	Ngamiland	fruit	beads
Spirostachys africana	*morukuru/ tamboti* (Afrikaans)	Ngamiland	branches	carved beads
Garcinia livingstonei	*motsaudi/ qwi* (Sesarwa)	Ngamiland	seeds	beads
?	*ninxai* (Sesarwa)	Ngamiland	branches	beads
?	*beyetatu*	Ngamiland	branches and fruit	beads
?	*qwa*	Ngamiland	seeds	beads
?	*legoma*	Kgalagadi	roots	to stiffen ostrich eggshell bead strands
haematite stone (iron oxide)	*letsoku*	Ngamiland	crushed	rub onto *tamboti* beads for red colour

TABLE 4. RAW MATERIALS UTILISED FOR MISCELLANEOUS CRAFTS

SCIENTIFIC (ENGLISH)	SETSWANA	AREA UTILISED	PART UTILISED	PRODUCT MADE
Bos indicus (cow)	*kgomo*	throughout Botswana	hide	leather goods including shoes, Herero fat containers
		throughout Botswana	brains	tanning agent
		Central, Ghanzi, Kgalagadi, South East, Southern	leg bone	carvings, jewellery
		Otse village	horn	jewellery, spoons, buttons
		throughout Botswana	sinew	sewing thread for skins
Capra hircus (goats)	*podi*	throughout Botswana	hide	skirts, mats
			brains	tanning agent
			sinew	sewing thread for skins
Mimosa (exotic)		Ghanzi, Southern	bark	tanning agent, stabiliser used with E. elephantina
Sodium sulfide		Ghanzi, Southern		removes hair from skin during tanning process
Ovis aries (karakul sheep)	*nku*	Kgalagadi	wool	rugs, wall hangings, toys, used for karosses in 19th Century
Langenaria siceraria (gourds)	*phahana, segwana*	Central, Kweneng	pericarp	calabashes, bowls, jewellery
Zea mays (maize)	*mmidi*	Kweneng	leaves	corn-husk dolls
clay (light grey/ brown in colour)	*letsopa*	Central, Southern	crushed	pottery
clay (red-brown in colour)	*moraga*	Southern	crushed	pottery

SCIENTIFIC (ENGLISH)	SETSWANA	AREA UTILISED	PART UTILISED	PRODUCT MADE
haematite stone (iron oxide)	*letsoku*	Southern, Central	ground	red colouring for pottery
specularite stone	*sebilo*	Southern	ground	black colouring for pottery
asbestos, bone and quartz		throughout Botswana	ground	temper in pot-making
agate (especially blue moss)		found in Central; used mainly in South East	semiprecious gemstone	jewellery
carnelian (pink and grey)		found in Central; used mainly in South East	semiprecious gemstone	jewellery

For all four tables

Source: Individual producers questionnaire; Heinz and Maguire undated; Serowe Woodcarvers undated; le Roux 1971; Lee 1979; Tanaka 1980; Silberbauer 1981; Cunningham and Milton 1982, 1987; Coates Palgrave 1983; Terry 1984b, 1984c, 1986b, 1990c, 1994b; Campbell and Hitchcock 1985; Gantsi Craft 1987; Barnes, pers. comm., 1992; Campbell, pers. comm., 1992; Cunningham, pers. comm. 1992.

Note: These tables are considered to be a start on an information database for handicraft raw materials. Corrections and additions are welcome.

APPENDIX 5.1 SAMPLING WEIGHTS

The strata (S) have been sampled with different sampling fractions. To generalise about the population (Ni) as whole, the sample values for the individual elements must be weighted by the reciprocal (Ni/ni) of the sampling fraction (ni/Ni) to represent their true proportion in the population. The sample numbers for each category (ni) have been adjusted to reflect the numbers as they should be (ni x a/b) if the sample was random, by multiplying the sample numbers (ni) by the ratio (a/b) of the actual proportions (a) to the sampled proportions (b), for each category. The shaded column indicates the weights used in SPSS.

TABLE 5.1.1 WEIGHTING FOR PRODUCT TYPES

STRATA	PRODUCER NUMBERS (population)	% OF TOTAL POP.	INTER-VIEW DONE	% OF TOTAL INTER-VIEWED	% OF TOTAL / % OF INTERVIEWED = weight used for SPSS data analysis	RECIPROCAL OF SAMPLING FRACTION = weight used to estimate no. in pop.	SAMPLE NO. x WEIGHT = adjusted sample size
	No.		No.				
S	Ni	a	ni	b	a/b	Ni/ni	ni x a/b
Basketry	2408	0.49	99	0.29	1.672	24.323	166
Beadwork	850	0.17	24	0.07	2.434	35.417	58
Jewellery	51	0.01	21	0.06	0.167	2.429	4
Skinwork	715	0.14	19	0.06	2.587	37.632	49
Leatherwork	326	0.07	46	0.13	0.487	7.087	22
Carving	238	0.05	54	0.16	0.303	4.407	16
Weaving	176	0.04	32	0.09	0.378	5.500	12
Textiles	92	0.02	23	0.07	0.275	4.000	6
Pottery	72	0.01	16	0.05	0.309	4.500	5
Misc. Crafts	33	0.01	7	0.02	0.324	4.714	2
TOTAL	4961	1.00	341	1.00			341

cont. on next page

STRATA	PRODUCER NUMBERS (population) No.	% OF TOTAL POP.	INTER-VIEW DONE No.	% OF TOTAL INTER-VIEWED	% OF TOTAL / % OF INTERVIEWED = weight used for SPSS data analysis	RECIPROCAL OF SAMPLING FRACTION = weight used to estimate no. in pop.	SAMPLE NO. x WEIGHT = adjusted sample size
S	Ni	a	ni	b	a/b	Ni/ni	ni x a/b
TABLE 5.1.2 WEIGHTING FOR PRODUCTION TYPES							
Formal	699	0.14	136	0.40	0.353	5.140	48
Informal	4262	0.86	205	0.60	1.429	20.790	293
TOTAL	4961		341	1.00			341
TABLE 5.1.3 WEIGHTING FOR PRODUCT CATEGORIES							
Contemporary	782	0.16	170	0.50	0.316	4.600	54
Traditional	4179	0.84	171	0.50	1.680	24.439	287
TOTAL	4961		341	1.00			341
TABLE 5.1.4 WEIGHTING FOR GEOGRAPHICAL AREA							
Urban	345	0.07	63	0.18	0.376	5.476	24
Rural	4616	0.93	278	0.82	1.141	16.604	317
TOTAL	4961		341	1.00			341
TABLE 5.1.5 WEIGHTING FOR GENDER							
Males	1142	0.23	113	0.33	0.695	10.106	78
Females	3819	0.77	228	0.67	1.151	16.750	263
TOTAL	4961		341	1.00			341

APPENDIX 5.2

Name of enumerator _____ Date_____
Location of interview: Village_____ District_____
Starting Time _____ Ending Time _____ Total Time_____

QUESTIONNAIRE FOR INDIVIDUAL PRODUCERS

Circle correct response(s) or fill in the line as appropriate.

1. BACKGROUND/PERSONAL INFORMATION

1.1 Code number _____

1.2 Sex: 1. Male 2. Female

1.3 What age are you? (Or what year were you born in?)

1. under 15
2. 15-20
3. 21-30
4. 31-40
5. 41-50
6. 51-60
7. over 60

1.4 Where were you born? Village: _____
District (or if outside Botswana, Country: _____

1.5 Name of village/town where you are currently residing?

_____

1.6 Which tribal/language group are you a part of?

1. Bangwato
2. Bangwaketse
3. Bakwena
4. Bakgatla
5. Barolong
6. Batawana
7. Balete
8. Bahurutshe
9. Kalanga
10. Yei
11. Subiya
12. Mbukushu
13. Herero
14. Basarwa
15. Bakgalagadi
16. Babirwa
17. Other _____

1.7 What is the highest level of formal education that you have obtained?

1. Standard 1 - 3
2. Standard 4 - 7
3. Form 1 - 2
4. JC
5. Form 3 - 5
6. O Levels
7. Certificate _____
8. Diploma _____
9. Degree _____
10. Non-Formal Education _____
11. No education
12. Other _____

2. PRODUCTION

2.1 What type of crafts do you make? (Circle all that apply)

1. Basketry
2. Items from wildlife products (i.e., skins, ostrich shell beads)
3. Wood carvings
4. Textiles (silkscreen print, batik, etc.)
5. Leather products (from cow, goat, sheep hides)
6. Weaving (tapestries, rugs, bedspreads, table cloths)
7. Pottery
8. Misc. products from natural resources (dried flowers, gourds)
9. Jewellery (clay, silver, gemstones)
10. Bone carvings (beef)
11. Other _____

[NB. List <u>specific</u> craft items in next table under 2.1.1]

2.2 If working full-time on one piece, how long does it usually take you to make craft XXXX?

2.1.1 CRAFT ITEM	2.2 TIME
a.	
b.	
c.	
d.	
e.	
f.	
g.	
h.	
i.	
j.	

2.3 Why do you make this(these) <u>particular</u> type(s) of craft?

_____

_____

2.4 If any products are available for viewing, estimate overall level of quality. [Specify products viewed:]

_____

1. Poor
2. Average
3. Good
4. Very good
5. Excellent
6. Not available

2.5 Do you make crafts throughout the whole year?

1. Yes 2. No

2.5.1 If no, at which time of the year do you produce the most crafts?

_____

2.5.2 Why do you work mainly during this time?

_____

_____

2.6 How much time do you spend producing crafts during an average day?

_____

2.7 Did you do any craft production during the past week?

1. Yes 2. No

2.7.1 If yes, what kind and how many items did you produce?

_____

2.7.2 If yes, how much time did you spend working on crafts during the week?_____

2.7.3 If no, why did you not work on crafts?

_____

2.8 Is this level of production for last week:

1. slower than normal
2. a normal/typical week
3. busier than normal

2.8.1 Why?

_____

_____

2.9 How do you work?

1. By yourself
2. With an informal group of producers
3. With a group of producers in a cooperative
4. With a group of producers in a business
5. With paid employees/assistants
6. With "volunteer" assistance (i.e. family member, apprentice)
7. Other_____

2.9.1 If you have paid employees, what are their positions?

2.9.2 Do they work full-time or part-time for you?

2.9.3 How much do you pay them? [State per hour, per day, per week, per month etc. as appropriate]

2.9.1 POSITION	2.9.2 F/T OR P/T	2.9.3 WAGE
a.		
b.		
c.		
d.		
e.		

2.10 How long have you been producing crafts? [Specify months or years.]

_____

2.11 How (or from whom) did you learn to make crafts? [include both formal and informal methods]

_____

_____

2.12 Have you had any further training -- formal or informal -- since the time when you first learned?

1. Yes 2. No

2.12.1 If yes, what and when?

_____

2.12.2 If no, why not?

_____

2.13 Do you feel the need for further training?

1.Yes 2. No 3. Do not know

2.13.1 If yes, what type?

_____

3. RAW MATERIAL AND EQUIPMENT UTILISATION

3.1 What main raw materials and consumable supplies do you use? [Include all materials for producing product]

3.2 Where do you obtain them?

3.3 For the ones that you gather/collect, how often do you go to collect them?

3.4 For the ones that you gather/collect, how long does it take you to collect them? (i.e., how long does it take to reach the place where they are found, how long does it take to cut/dig for them etc.?)

3.5 For the ones that you have to pay for, how much do they cost?

3.1	3.2	3.3	3.4	3.5
a.				
b.				
c.				
d.				
e.				
f.				
g.				
h.				
i.				
j.				

3.6 Is there any problem with obtaining these raw materials?

1. Yes 2. No 3. Do not know

3.7 If yes, what type of problem?

_____

_____

_____

3.8 How much did you spend on raw materials last month?

_____

3.9 What tools or equipment do you have in order to produce your craft items?

3.10 What did they cost?

3.11 How did you obtain them? [Write in number]

1. paid for them yourself
2. received a FAP grant
3. received a bank loan
4. friend or relative supplied them
5. made them yourself
6. supplied through the job
7. leased them
8. borrowing them
9. other _____

3.9 Tools	3.10 Cost	3.11 Obtained?
a.		
b.		
c.		
d.		
e.		
f.		
g.		
h.		
i.		
j.		

4. MARKETING

4.1 What craft items do you sell?

4.2 What price do you charge for these items?

4.3 Do you always get the price you ask for?

4.4 If not, how much money do you receive for the product?

4.5 In an average month, how many of these items do you sell?

4.1	4.2	4.3	4.4	4.5
a.				
b.				
c.				
d.				
e.				
f.				
g.				
h.				
i.				
j.				

4.6 How do you sell your crafts? [Circle all that apply and specify location]

1. From your own place of work (i.e, workshop)
2. From your home
3. From a local market place _____
4. Door to door
5. By travelling to a specified location to sell _____
6. At the train
7. On the roadside _____
8. Other _____

4.7 To whom do you sell? [Circle all that apply and specify]

1. To Botswanacraft
2. To a non-profit middleman (i.e., G/craft, Serowe) _____
3. To a commercial middleman/wholesaler _____
4. To a retail shop _____
5. To villagers
6. To govt officers, teachers, nurses living in village
7. To visitors
8. To tourists
9. Other _____

4.8 How do your products usually get to the place of market? [Be specific]

_____

_____

4.9 If you must pay for shipping or travelling to the place of marketing, how much does it usually cost?

_____

4.10 How many <u>times</u> in an average month do you try to sell your craft products?

_____

4.11 How many products did you sell last week?

_____

_____

4.12 How much money did you receive from selling these products?

_____

5. INCOME EARNED AND HOUSEHOLD INFORMATION

[NOTE: 5.1 to 5.5 must be answered in the table.]

5.1 Name the people normally residing in your household [By relationship to respondent and sex, Write in Code:

1. Spouse 2. Father 3. Mother 4.Child 5. Grandchild 6. Sibling 7. Other Type of Relative [Describe] 8. Non-relative [Describe]

5.2 Who is the Head of Household? [If HHHead is male, must have resided for over 6 months in past 12 months. Tick the head of household.]

5.3 Of the members of your household who are income earners, what work do they do?

5.4 What income do they earn from this work?

5.5 Who is the most important income earner in your household? [Circle number]

5.1 MEMBER	5.1.1 SEX	5.3 TYPE OF WORK	5.5 INCOME/PERIOD
a. Respondent			
b.			
c.			
d.			
e.			
f.			
g.			
h.			
i.			
j.			
k.			
l.			

5.6 What other ways do you and your household earn cash?

5.7 How often/when do you do this?

5.8 How much income do you get from this? [State per piece, per hour, per day, per week as appropriate].

5.6 METHOD	5.7 TIME	5.8 INCOME/PERIOD
a. any other paid labour not already mentioned		
b. sale of livestock or game		
c. sale of crops		
d. sale of other products or services		
e. remittances received from outside		
f. rent		
g. pensions		
h. other, specify		

5.9 How much income did you earn from craft production....

5.9.1 Last month?_____ 5.9.2 Last year? _____

5.10 (If applicable) Thinking about all your methods of earning income, including crafts, which is the most important one for you?

_____

5.11 If you did not know how to produce crafts could you find other work in your village/immediate area?

1. Yes 2. No 3. Do not know

5.11.1 If yes, what work?

_____

5.12 Have you ever left your village to find work?

1. Yes 2. No

5.12.1 If yes, what type of work did you find?

1. Type of Work:_____
2. Found no work

5.13 While you are producing crafts, do you think it would ever be necessary to leave your village to find work?

1. Yes 2. No 3. Do not know

5.13.1 Why or why not?

_____

5.14 How important is it for your household that you earn money from craft production?

1. Not important at all
2. Not very important
3. Slightly important
4. Important
5. Very Important

5.14.1 Why? _____

_____

6. INCOME UTILISATION

6.1 What have you spent your money on in the last twelve months? [Read out the options]

ITEM	QUANTITY/DESCRIPT.	AMOUNT (PULA)
i) Education/uniforms		
ii) Health		
iii) Acquisition of farm equipment		
iv) Acquisition of livestock		
a) Cattle		
b) Goats		
c) Donkeys		
d) Chickens		
e) Other Livestock		
v) Acquisition or improvement of land or property		
vi) Purchase of seed		
vii Purchase of consumer durables		
a) Car		
b) Bicycle		
c) Radio		
d) Furniture		
e) Utensils		
f) Tools or equipment for craftwork		
g) Other		
viii) Wages for labour		
ix) Rent		

x) Purchase of non-durables <u>during the past month</u>		
a) Food		
b) Fuel		
c) Clothes		
d) Raw materials for craft work		
e) Other		
f) Other		

6.2 If the money you earned from craft production was to double, how would you use that additional money?

_____

_____

6.3 [For FEMALE respondents only. CIRCLE response.]
With the money that you earn yourself, do you:

1. decide what to do with it yourself
2. hand it over to your husband
3. hand it over to your parents

7. ATTITUDES TOWARDS CRAFTS

7.1 What do you think others in your village/community/town think about people like you who produce crafts?

_____

_____

7.2 How important do you think it is for the development of your village/community/town that people are producing crafts?

1. Not important at all
2. Not very important
3. Slightly important
4. Important
5. Very Important

7.2.1 Why? _____

_____

7.3 If you were not able to sell your crafts, would you still produce them anyway?

1. Yes 2. No 3. Do not know

7.3.1 Why or why not?

_____

7.4 Do you think that the type of craft production you undertake is a part of your culture?

1. Yes 2. No 3. Do not know

7.4.1 Why or why not?

_____

_____

7.5 Do you think that the crafts you produce contributes to the culture of your people?

1. No contribution
2. Very little contribution
3. Some contribution
4. Contributes
5. Contibutes greatly

7.5.1 Why?

_____

_____

7.6 Do you think that the crafts you produce contributes to the culture of the nation?

1. No contribution
2. Very little contribution
3. Some contribution
4. Contributes
5. Contributes greatly

7.6.1 Why?

_____

_____

8. SUCCESS OR FAILURE?

8.1 Thinking in general about your craft production business, are there any problems?

1. Yes 2. No 3. Do not know

8.1.1 If yes, what are the main problems? [Prompt if necessary with some of the following: Raw material procurement, market, transportation, skills, etc.]

_____ _____

_____ _____

_____ _____

8.1.2 Rank the above in order of seriousness. [Place a number after each one, with "1" being most serious]

8.2 What can you do [or what can be done] to solve any of the these problems?

_____

_____

8.3 In general, are you happy making crafts, is this a reasonable way to make a living?

1. Yes 2. No 3. Do not know

8.3.1 Why?_____

_____

8.4 In general, what could be done to improve or expand your craft production business?

_____

_____

THANK YOU FOR YOUR TIME AND COOPERATION. I HAVE NO MORE QUESTIONS TO ASK. IS THERE ANYTHING THAT YOU WOULD LIKE TO ADD OR ARE THERE ANY QUESTIONS THAT YOU WOULD LIKE TO ASK?

Additions:

_____

_____

_____

****

9. FOR ENUMERATOR: TO BE ANSWERED AFTER LEAVING RESPONDENT

[NOTE: Ensure that you calculate and enter ENDING TIME and TOTAL TIME on top of page 1.]

9.1 Number of visits before acheiving interview (include first visit as 1): _____

9.2 Level of Co-operation of Respondent:

1. High 2. Medium 3. Low

9.3 Enumerator: Do you feel that any questions were not answered correctly? If yes, please explain and note which questions.

_____

_____

_____

APPENDIX 5.3

SAMPLE FRAME: CRAFT PRODUCTION UNITS IN BOTSWANA (AS OF NOVEMBER 1992)

LIST NO.	SURVEY NO.	SF NO.	CODE	PRODUCTION UNITS	LOCATION	DISTRICT	TOTAL	FEMALE	FEMALES AS % OF TOTAL
1	3	1	FCUJG	A Rona Gemstones	Gaborone	Southeast	3	3	100%
2	2	2	FCUWT	Baikagi Weavers	Lobatse	Southeast	10	10	100%
3	23	3	FCULU	BGI Tanning	Francistown	Northeast	130	50	38%
4		4	FCRLU	Blackie's	Pilane	Kgatleng	3	1	33%
5		5	FCRWT	Bokspits weavers	Bokspits	Kgalagadi	15	15	100%
6	14	6	FCRLU	Botswana Leather Work	Pilane	Kgatleng	22	16	73%
7	1	7	FCRPB	Botswelelo Center -- Thamaga Pottery	Thamaga	Kweneng	17	10	59%
8	24	8	FCULU	Bushman Products	Francistown	Northeast	32	26	81%
9	10	9	FCRLU	C.M. Leather Works	Pilane	Kgatleng	10	8	80%
10	17	10	FCRTB	Camphill textile workers	Otse	Southeast	5	5	100%
11	19	11	FCRCM	Camphill hornworker	Otse	Southeast	1	0	0%
12	18	12	FCRCW	Camphill woodworkers	Otse	Southeast	2	1	50%
13	30	16	FCRTP	D'kar sewing group	D'kar	Ghanzi	5	5	100%
14	31	18	FCRLU	D'kar tanners	D'kar	Ghanzi	13	0	0%
15		19	FCUWT	Fashion Enterprises	Selebi-Phikwe	Central	30	30	100%
16		20	FCRLU	Flora's Leather Works	Pilane	Kgatleng	7	5	71%
17		28	FCUPU	Hangale Pottery	Francistown	Northeast	1	1	100%
18	8	29	FCRJM	Ikgabiseng Coop	Pilane	Kgatleng	6	6	100%
19	16	30	FCUJM	J+D Jewellery	Gaborone	Southeast	10	10	100%
20		31	FCUJG	Kalahari Gemstones	Gaborone	Southeast	1	0	0%
21	26	32	FCUPU	Kanye Potters	Kanye	Southern	4	4	100%
22	15	35	FCULU	Kgalagadi Game Skin	Gaborone	Southeast	15	11	73%
23	9	42	FCRWT	Lentswe la Oodi Weavers	Oodi	Kgatleng	41	37	90%
24	20	43	FCRJB	Lerapa Design	Otse	Southern	4	4	100%
25	13	44	FCRLU	Mabutsane Tannery	Mabutsane	Southern	19	19	100%
26	21	45	FCUTP	Marothodi Design	Francistown	Northeast	35	33	94%
27	7	46	FCRJC	Mokolodi Craft	Mokolodi	Southeast	9	9	100%
28	32	47	FCRTP	Mokolodi Craft	Mokolodi	Southeast	6	6	100%

LIST NO.	SURVEY NO.	SF NO.	CODE	PRODUCTION UNITS	LOCATION	DISTRICT	TOTAL	FEMALE	FEMALES AS % OF TOTAL
29	4	48	FCRLU	Molefi Furs	Pilane	Kgatleng	11	7	64%
30		49	FCRLU	Molopo Leather	Molopo Farms	Kgalagadi	4	4	100%
31		51	FCUJS	Motanka Jewellery	Gaborone	Southeast	4	4	100%
32		52	FCRPB	Motsetse Pottery	btw F/town & Nata	Central	2	2	100%
33		58	FCUJG	Okavango Curios and Gemstones	Gaborone	Southeast	2	1	50%
34	28	59	FCRPB	Pelagano Pottery	Gabane	Kweneng	7	7	100%
35	29	60	FCRNR	Pelagano Village Industries crafts	Gabane	Kweneng	3	3	100%
36	5	61	FCRTP	Phuthadikobo Museum	Mochudi	Kgatleng	12	8	67%
37		62	FCRLU	Pilane Tannery	Pilane	Kgatleng	60	30	50%
38		63	FCRJM	Pilane Tinsmiths	Pilane	Kgatleng	6	6	100%
39		64	FTRBB	Pudulogong School of the Blind	Mochudi	Kgatleng	32	30	94%
40	27	66	FCRPB	Serowe Pottery	Serowe	Central	3	2	67%
41		68	FCRPB	Serule Pottery	Serule	Central	4	2	50%
42	11	73	FCRTD	Sunday's Clothes	Pilane	Kgatleng	4	4	100%
43		75	FCUJB	The Craftsman	Lobatse	Southeast	2	0	0%
44		76	FCRJB	Thusang Mosweu craftworker	Serowe	Central	1	0	0%
45		77	FCRPB	Thusano Pottery	Ramotswa	Southeast	3	3	100%
46		78	FCUJS	Thusano Silversmiths	Gaborone	Southeast	3	3	100%
47	22	79	FCUWT	Tswana Weavers	Francistown	Northeast	21	21	100%
48	25	80	FCRWT	Tswelelopele Handicraft School/Disabled	Maun	Ngamiland	17	11	65%
49	33	81	FCUWT	United Design	Lobatse	Southeast	37	35	95%
50	12	82	FCUWT	Weaves and Crafts	Gaborone	Southeast	5	5	100%
51	6	c	FCUWT	Tiro ya Diatla	Lobatse	Southeast	13	13	100%
				TOTALS			**712**	**526**	**74%**

Notes: Column 1 indicates the total number (51) of existing production units.
Column 2 indicates the survey number for the units surveyed for a total of 33.
Column 3 provides the sample frame number from the list of all producer groupings (Appendix 4.1).

APPENDIX 5.4

Name of enumerator _____ Date_____
Location of Interview: Village _____ District_____
Starting Time _____ Ending Time _____ Total Time _____

PRODUCTION UNIT QUESTIONNAIRE

Circle correct response(s) or fill in the line as appropriate.

1. BACKGROUND

1.1 Code number _____

1.2 Year production unit began operation_____

1.3 Type of ownership

1. Private/profit-making -- citizen owned
2. Private/profit-making -- ex-patriot owned
3. Co-operative
4. Non-profit/NGO _____
5. Formal group but not registered
6. Other_____

1.4 Type of operation (Circle all responses as appropriate)

1. Production
2. Wholesale
3. Retail
4. Exports
5. Food service
6. Exhibition space
7. Other _____

1.5.1 Total number of people employed _____
1.5.2 Number of males _____
1.5.3 Number of females _____

1.6 What are their positions?
1.7 Do they work full-time or part-time?
1.8 What are their approximate salaries?

1.6 POSITION	1.7 F/T or P/T	1.8 SALARY

2. PRODUCTION

2.1 What type of crafts does the unit make? (Circle all that apply)

1. Basketry
2. Items from wildlife products (i.e., skins, ostrich shell beads)
3. Wood carvings
4. Textiles (silkscreen print, batik, etc.)
5. Leather products (from cow leather)
6. Weaving (tapestries, rugs, bedspreads, table cloths)
7. Pottery
8. Misc. products from natural resources (dried flowers, gourds)
9. Jewellery (clay, silver, gemstones)
10. Bone carvings (beef)
11. Other _____

NB. List specific craft items in next table under 2.1.1

2.2 If working full-time on one piece, how long does it usually take the unit to make craft XXXX?

2.1.1 CRAFT ITEM	2.2 TIME
a.	
b.	
c.	
d.	
e.	
f.	
g.	
h.	
i.	
j.	

2.3 If any products are available for viewing, estimate overall level of quality. Specify type viewed.

1. Poor
2. Average
3. Good
4. Very good
5. Excellent
6. Not available

2.4 Why do you make this(these) particular type(s) of craft?

_____

_____

2.5 Is there a variation in production rates at different times of the year (i.e., busy periods/slow periods)?

1. Yes 2. No 3. Do not know

2.6 If yes, state the differences and why?

_____

_____

2.7 State levels of production

MONTH	QUANTITY	VALUE	MONTH	QUANTITY	VALUE

2.8 How (or from whom) did the producers learn to make crafts?

_____

_____

2.9 Has anyone been trained in design?

1. Yes 2. No

2.10 If yes, where/how? _____

2.11 If no, how does the unit develop new designs?

_____

2.12 Is there a need for additional training of any kind?

1. Yes 2. No

2.13 If yes, describe. _____

2.14 If no, why not? _____

3. RAW MATERIAL AND EQUIPMENT UTILISATION

3.1 What main raw materials are used by the unit?

3.2 Where/how do you obtain them?

3.3 Costs?

3.1 MATERIALS	3.2 OBTAIN?	3.3 COSTS
a.		
b.		
c.		
d.		
e.		
f.		
g.		
h.		
i.		
j.		

3.5 Is there any problem with obtaining these raw materials?

1. Yes 2. No 3. Do not know

3.6 If yes, what type of problem?

_____

_____

_____

3.7 How much did you spend on raw materials last month?

_____

3.8 What tools and equipment does the unit use in order to produce the craft items?
3.9 Cost?
3.10 How did you obtain them?

1. unit paid for them
2. received a FAP grant
3. received a bank loan
4. made them yourself
5. leased them
6. borrowing them
7. other _____

3.8 Tools	3.9 Cost	3.10 Obtained?
a.		
b.		
c.		
d.		
e.		
f.		
g.		
h.		
i.		
j.		

3.11 What other assets does the unit have?
3.12 Approximate value?

3.11 ASSETS	TICK IF YES	3.12 VALUE
a. Buildings		
Office		
Workshop		
Houses		
b. Land		
c. Fencing		
d. Vehicles		
e. Furniture		
f. Office equipment		

4. MARKETING

4.1 To whom do you sell? (Circle all that apply)

1. To Botswanacraft
2. To a non-profit middleman (i.e., G/craft, Serowe)
3. To a commercial middleman/wholesaler
4. To a retail shop
5. To people living in your town/village
6. To Batswana from outside the area
7. To expatriates living in Botswana
8. To tourists/visitors
9. Exporting (Where? _____)
10. Other _____

4.2 How do you sell your crafts? (Circle all that apply)

1. From your workshop
2. From your own retail shop
3. From a local market place
4. By travelling to a specified location to sell
   State location: _____
5. Other _____

4.3 Unit price of items

4.3 ITEMS	UNIT PRICE RETAIL	UNIT PRICE WHOLESALE	ITEMS	UNIT PRICE RETAIL	UNIT PRICE WHOLESALE

4.4 Do you ever provide a discount or lower your prices by bargaining?

1. Discount 2. Bargain 3. Both 4. Neither

Describe:_____

_____

4.5 What percentage of mark-up do you add on to the cost of production? _____

4.6 Sales turnover?

MONTH	QUANTITY	VALUE	MONTH	QUANTITY	VALUE

4.7 What percent of sales turnover is contributable to export sales?

_____

4.8 (If applicable) How many times in an average month do you try to sell your craft products?

_____

4.9 Is there any problems in regards to marketing?

1. Yes 2. No 3. Do not know

4.10 If yes, describe:

_____

_____

_____

_____

_____

5. OTHER EXPENSES

5.1 What other expenses, besides wages and materials, does the unit have?

5.2 Amount

5.1 Expenses	5.2 Amount
a. Administration	
b. Transport	
c. Insurances	
d. Packaging	
e. Advertising/Promotion	
f. Interest on loans	
g. Other	
h. Other	
i. Other	

6. SUCCESS OR FAILURE?

6.1 (If applicable, say: We have already discussed some problems regarding raw materials and marketing.) Thinking in general about this craft production business, are there any other problems?

1. Yes 2. No 3. Do not know

6.1.1 If yes, list: [Include others already mentioned]

6.1.2 Rank in order of seriousness. [Place a number before each one, with "1" being most serious]

6.1.3 What can be done to solve any of the these problems?

6.1.1 PROBLEMS	6.1.3 SOLUTIONS

6.2 More generally, what could be done to improve or expand this craft production business? Mention needs, aspirations, etc.

_____

_____

_____

_____

7. ATTITUDES TOWARDS CRAFTS AND CRAFT PRODUCTION

7.1 How important do you think it is for the development of this village/community/town that people are producing crafts?

1. Not important at all
2. Not very important
3. Slightly important
4. Important
5. Very Important

7.1.1 Why? _____

_____

7.2 Do you think that the production of crafts at this unit contributes to the culture of the people or nation of Botswana?

1. No contribution
2. Very little contribution
3. Some contribution
4. Contributes
5. Contibutes greatly

7.2.1 Why?

_____

_____

THANK YOU FOR YOUR TIME AND COOPERATION. I HAVE NO MORE QUESTIONS TO ASK. IS THERE ANYTHING THAT YOU WOULD LIKE TO ADD OR ARE THERE ANY QUESTIONS THAT YOU WOULD LIKE TO ASK?

Additions:

_____

_____

_____

_____

****

9. FOR ENUMERATOR: TO BE ANSWERED AFTER LEAVING RESPONDENT :

9.1 Number of visits before acheiving interview (include first visit as 1): _____

9.2 Respondent's Position at Unit _____

9.3 Level of Co-operation of Respondent:

1. High 2. Medium 3. Low

9.3 Enumerator: Do you feel that any questions were not answered correctly? If yes, please explain and note which questions.

_____

_____

_____

_____

APPENDIX 5.5

Enumerator _____ Code _____ Date_____
Starting Time _____ Ending Time _____ Total Time _____

CRAFT MARKET OUTLET QUESTIONNAIRE

Please circle correct response(s) or fill in the blank line as appropriate. ALL RESPONSES ARE CONFIDENTIAL. Use a separate paper if you want to respond to any question more in depth.

1. Town or location of market outlet _____

2. Year craft market outlet began operation _____

3. Type of ownership

   1. Private/profit-making -- citizen owned
   2. Private/profit-making -- expatriate owned
   3. Co-operative
   4. Non-profit/NGO/Community Service/Trust
   5. Parastatal
   6. Other_____

4. Type of operations (Circle all responses as appropriate)

   1. Craft shop selling primarily craft items, not connected with any other type of operation.
   2. Craft shop that sells primarily craft items, attached to a lodge/hotel/safari camp.
   3. Craft shop that sells primarily craft items attached directly to a production unit.
   4. Retail shop that sells some craft items along with other goods, such as food and household items.
   5. Lodge or safari camp that sells crafts items occasionally on an ad hoc basis.
   6. Other, please describe _____

5. What is the approximate size of your selling area (in metres squared)?_____

6. Type of activities (Circle all responses as appropriate)

   1. Retail
   2. Wholesale
   3. Export
   4. Exhibition/gallery space
   5. Provide packing and shipping services for customers
   6. Other, specify _____

7. Is your operation: 1) seasonal or 2) can you sell all year round? If seasonal, which months? _____

8. Total number of people employed who are engaged in the craft market outlet operation _____
   No. of males ____ No. of females ____

For questions 9 - 11, please indicate as best as you can (by percentage) what proportion of the whole is formed by each category. Indicate 0 if a certain category does not apply.

9. TYPE OF CUSTOMER — PERCENT

1. Holiday visitor _____
2. Business visitor _____
3. Expatriate resident _____
4. Botswana citizen, living in the same area _____
5. Botswana citizen, from afar _____
6. Other, specify _____

10. ORIGIN OF CRAFT PRODUCTS — PERCENT OF PRODUCT VOLUME

1. Botswana _____
2. Zimbabwe _____
3. Zambia _____
4. South Africa _____
5. Swaziland _____
6. Lesotho _____
7. Other African countries _____
8. Other non-African countries _____

11. TYPE OF CRAFT PRODUCTS — PERCENT OF PRODUCT VOLUME

1. Basketry (baskets/mats/trays) _____
2. Wood carvings/ wood items _____
3. Basarwa (Bushman) crafts _____
4. Textiles (printed fabric/wallhangings) _____
5. Wool woven tapestries/rugs _____
6. Jewellery _____
7. Pottery/ceramics _____
8. Contemporary leather goods _____
9. Books _____
10. Clothing (includes T-shirts) _____
11. Cards/postcards _____
12. Other, specify _____ _____

12. How do you obtain your products? Circle all that apply.

1. From Botswanacraft
2. From Gantsicraft
3. From !Kung San Works
4. From other middlemen/wholesalers
5. From producers who come to the shop
6. From your own production unit
7. By travelling out to producers and buying directly from them
8. Travelling to other craft shops and buying from them
9. Other, specify _____

13. Do you have any problems with obtaining craft products?

1. YES, All the time 2.Yes, Sometimes 3. Rarely 4. Never

14. If yes, please describe the problems.

_____

_____

15. What was your total sales turnover (in Pula) for 1989?

_____

16. Please indicate (in Pula) sales turnover for 1989 for the following categories:

TYPE OF PRODUCT	SALES TURNOVER (P)
1. Basketry (baskets/mats/trays)	_____
2. Wood carvings/ wood items	_____
3. Basarwa (Bushman) crafts	_____
4. Textiles (printed fabric/wallhangings)	_____
5. Wool woven tapestries/rugs	_____
6. Jewellery	_____
7. Pottery/ceramics	_____
8. Contemporary leather goods	_____
9. Books	_____
10.Clothing	_____
11.Other, specify _____	_____

17. What are your best selling items? and WHY?

_____

_____

18. What are your worst selling items? and WHY?

_____

_____

19. Of the Basarwa (Bushman) craft products, what specific items do you carry? Circle all that apply.

1. Hunting sets (w/bag)
2. Bow and arrow sets (w/o bag)
3. Love bows
4. Leather and beaded bags
5. Leather skirts/aprons
6. Ostrich eggshell beadwork
7. Whole ostrich eggs
8. Tortoise powder puffs
9. Fly whisks
10. Wildebeest hair bracelets
11. Dance rattles
12. Fur bags
13. Skin mats/karosses
14. Thumb pianos

20. Of the Basarwa (Bushman) craft products listed above, which sells the best? WHY?

_____

_____

21. Of the Basarwa (Bushman) craft products listed above, which sells the worst? WHY?

_____

_____

22. Do you have any problems with obtaining the Basarwa products?

1. YES, All the time 2.Yes, Sometimes 3. Rarely 4. Never

23. If yes, please describe the problems.

_____

_____

24. Do you feel you could sell more Basarwa crafts than you are currently selling, if they were available to you?

1. YES 2. NO 3. DO NOT KNOW

25. Why? _____

_____

26. Do you have any suggestions for new (or currently unavailable) types of craft items that you wish you could be obtaining from Botswana?

_____

_____

27. Any other comments (on procurement, marketing, quality, pricing, supply, etc.) of Basarwa crafts or other crafts in general?

_____

_____

_____

_____

THANK YOU VERY MUCH
FOR YOUR TIME AND PATIENCE IN RESPONDING TO THESE QUESTIONS

APPENDIX 5.6

SALES RECORD CARD

NAME OF PRODUCER_____ PRODUCER NO. _____

DATE	TYPE OF PRODUCT	PLACE OF SALE	TYPE OF BUYER*	PRICE
TOTALS				

* Tourist, Official Visitor, Villager, Teacher, Nurse, Government Officer Wholesale Craft Operator, Retail Shop Operator, Tourist Operator, Other

APPENDIX 5.7

EXTRAPOLATION, STATISTICAL, FINANCIAL AND ECONOMIC ANALYSIS METHODS

EXTRAPOLATION METHODS FOR SALES TURNOVER FIGURES

To calculate estimates of total sales turnover for all production units and all marketing outlets, figures obtained from the sample population were extrapolated. For the production units, extrapolation was done by rating the 28 units with 'known' sales turnover from the survey on a scale of one to seven. The other 23 'unknown' units were given a turnover rating (judged from general familiarity with their stock and operation and taken from miscellaneous reports). Average ratings were obtained for each group with the 'known' group averaging 3.18 and the 'unknown' group averaging 2.84. The average turnover of the 'known' group (P108,988) was multiplied by a ratio (2.84/3.18) bringing the estimated average turnover to P97,335. This figure was then multiplied by the 23 'unknown' outlets (to get P1,849,365) and added to the total turnover figure for the 'known' outlets (P3,051,958). The grand total sales turnover for the formal units was estimated to be P4,901,323 or approximately P5 million.

Similarly, extrapolation was done by rating the 26 marketing outlets with known sales turnover from the survey on a scale of one to ten. The other 22 outlets were given a turnover rating (judged from general familiarity with their stock and operation, taken from miscellaneous reports, and in some cases, from the production unit survey). Average ratings were obtained for each group with the 'known' group averaging 2.62 and the 'unknown' group averaging 1.41. The average turnover of the 'known' group (P215,515) was multiplied by a ratio (1.41/2.62) bringing the estimated average turnover to P115,983. This figure was then multiplied by the 22 'unknown' outlets (to get P2,251,626) and added to the total turnover figure for the 'known' outlets (P5,603,394). The grand total sales turnover was estimated to be P7,855,020 or approximately P7.9 million.

STATISTICS UTILISED DURING ANALYSIS

Various statistical procedures have been utilised during the analysis of these research data. The most common form of analysis used has been frequencies (i.e. counts and percentages). The total number of producers responding in the same way to a specific question is recorded. In tables this number usually falls under a column labelled 'no. of respondents' or just 'no.'. Often,

percentage figures are shown. Here, the total number of producers making one response is divided by the total number of respondents.

Wide spans of responses often occur and therefore certain statistics are used because they do not reflect the extremely high or extremely low values. To find the central tendency of nominal responses, the mode has been usually used, that is the 'response most often given'. The median (i.e. the number above and below which 50 percent of the responses fall) has been calculated to determine the central tendency of ordinal and interval level data. Since the median falls in the middle, it represents the most 'typical' response. For interval and ratio level data, the mean has been usually used, that is, the arithmetic average where values are added up and divided by the number of cases. At the same time, the standard deviation is calculated as a measurement of dispersion or the spread around the mean. The standard deviation is the square root of the variance or the average distance the average score is from the mean (Fink and Kosecoff undated:81). In a normal distribution about 95 percent of the observations lie within two standard deviations of its mean. Thus, there is a 95 percent chance that the mean of any particular sample chosen at random will be within two standard deviations of the true population mean (Hoinville and Jowell 1978:59). A high standard deviation of numbers from the mean response indicates that there is at least as much variation in the areas considered as there is variation between the mean responses of different groups.

To compare different groups or strata (e.g. urban producers versus rural, males versus females, informal workers versus formal) certain statistical tests have been used to see if the observed differences are due to some real occurrences or only by chance. To make comparisons for categorical data with nominal or ordinal numbers, the chi-square test has been used. Chi-square is based on the observed, minus the expected frequency for each cell, and assesses whether the strata vary from each other around the variable of interest. In cases in which chi-square can be calculated, the significance level is reported. The generally acceptable significance level for the social sciences to see if a relationship exists between the variables is $p \leq .05$, meaning that there is less than or equal to a five in 100 probability that the numbers analysed in the chi-square table have occurred by chance. Therefore, if the 'probability' or 'p' value is less than or equal to .05 then the chi-square test is significant. The smaller the 'p' value, the stronger the evidence is that the independent variable affects the dependent variable, thus the variables are dependent and the null hypothesis is rejected. On the other hand, if the figure is greater than .05, then the

assumption is that no relationship exists (e.g. the variables are independent of each other and the null hypothesis is true) and the chi-square test is reported as insignificant. If there are too many cells (i.e. more than 25 percent) with an expected frequency less than five, the chi-square test is unreliable and cannot be used. In tables of this kind, the chi-square is reported as 'n/a' or 'not available' where the statistic should be.

While the chi-square test examines whether the distribution of variables is statistically significant, it does not determine the strength of the relationship or association between two variables. To determine how strongly correlated the variables are, a correlation coefficient (cc) is used. The correlation coefficient (cc) is chosen for most analysis of categorical numbers here, because it is commonly considered the more conservative correlation statistic (LeBeau and Pendleton 1993:8). However, since the cc is based on the chi-square, when the chi-square test is not reliable, the cc is also not reliable. Furthermore, when the chi-square shows no significance then trying to test the strength of a relationship that does not exist is not valid. In the cases when the strength of the relationship can be tested, the cc has a range from zero (no association) to one (perfect association). Thus, the closer the coefficient is to one, the stronger the association between the two variables. It is generally accepted in the social sciences that coefficients less than .20 show no association.

Throughout the text and in the tables, statistical testing for comparison of categorical data with nominal or ordinal numbers will be reported with the following information: the level of significance with specific probability (p-value), chi-square result with degrees of freedom (d.f.), and correlation coefficient (cc). As an example: "For traditional and contemporary producers, significant at .05 level, p=.0034 (Chi-square = 17.66, d.f. 5), cc = .22".

When more than two groups with continuous numbers (interval and ratio) are being compared (e.g. mean income levels of ten different craft categories), then analysis of variance (ANOVA) is used. ANOVA tests the null hypothesis that the group means of the dependent variable are equal (Norusis 1988a:C-17). To calculate ANOVA for this study, the ANOVA option under the means procedure in SPSS was used (Norusis 1988a:B-114). When this test has been run, the following results are reported: source of variation, degrees of freedom (d.f.), f-value and level of significance (p). In general, if the f-value is a small number, then the hypothesis cannot be rejected (Fink and Kosecoff undated:83–84). The probability or 'p' values used in these analyses are interpreted in the same manner as described above for the chi-square test.

When only two groups are compared, the Student's t-test is utilised to determine the significance of difference between means of the two independent samples, with the null hypothesis being that the two population means are equal (Moroney 1951:227; Norusis 1988a:B-121). When it can be assumed that the population variances in the two groups are equal, the pooled-variance t-test is used to obtain a pooled estimate of that common variance (Norusis 1988a:B-121). In contrast, when it is suspected that the variances are unequal, the separate-variance t-test is used. The statistic used to test the hypothesis that the two population variances are equal is the F value (the ratio of the larger sample variance to the smaller) (Norusis 1988a:B-122). Results of the t-test are reported as: type of variance estimate used (pooled or separate), t-value, degrees of freedom (d.f.) and level of significance or probability (p). When $p \leq .05$, the hypothesis that the mean scores are equal for the two groups is rejected, indicating that in fact there is some statistically significant difference between the two groups.

FINANCIAL AND ECONOMIC ANALYSES

Purpose of Financial and Economic Analyses for this Thesis

Extensive financial and economic analyses have been undertaken to fulfil the aims of this thesis and to test the hypotheses described in Chapter 1. Static and dynamic financial and economic models for each of the ten craft categories have been created. These models serve a dual purpose. First, the net cash income and net economic benefits derived from enterprise models, which describe one-person production enterprises (i.e. the informal enterprises), along with wage rates for individuals working in formal production units, help to determine the financial and economic impact of the craft industry on individual producers (first aim of thesis). Second, by aggregating the Net Present Values (NPVs) of the ten craft enterprise models by the total number of production enterprises, the total financial and economic benefits of the handicraft industry can be estimated (second aim of thesis).

Two other sets of aggregations have been developed. One set represents craft enterprises in urban and rural areas, while the other set covers areas frequented by craft-buying organisations or tourists versus geographic areas that are not frequented by craft-buying organisations or tourists. These aggregated sets are then used to test the two hypotheses under the third aim of the thesis.

Another group of models has been created to describe typical non-craft, non-farm, small-scale enterprises in Botswana. Data for these models have been taken from the literature, from financial statements of typical enterprises and from informal interviews with some entrepreneurs. The results of these models are then examined against the craft enterprise models to compare the contribution of the craft sector with the contribution of the non-craft, small-scale sector (fourth aim of the thesis).

A final use of the financial and economic models has been to assist with the formation of policy to satisfy the fifth aim of the thesis. By examining typical handicraft enterprises, the most viable craft categories can be determined and areas most suitable for government support can be recommended. For certain craft categories, sensitivity analyses have been used to establish policy implications regarding government interventions such as subsidies, grants, advisory support, etc.

Explanation of Financial and Economic Analyses

Financial and economic analyses are often undertaken while appraising projects or activities, or as in this case, to assess the worth or value of a given activity and sector, and to compare it with possible alternative activities and sectors. Prior to the start-up of a project or enterprise, financial analysis can provide an indication of incentive to invest, participate or implement. Financial analysis is done to see whether individuals or a group of individuals benefit from a given activity. Economic analysis can verify that an activity will contribute to the overall welfare of society and the nation, and can help to find out if government intervention is justified on an economic efficiency basis (Gregersen *et al* 1987:11&12; Barnes and de Jager 1995:5). In simple terms: is the project or enterprise worth doing (desirable) and is it better than any other alternative available (efficient)? (Gregersen *et al* 1987:72&73).

Financial appraisal deals with market traded goods and services and money inflows and outflows based on market prices. Economic appraisal also considers market traded goods and services, but attempts to value them in terms of society's true willingness to pay for them (Gregersen *et al* 1987:11 & 12). The values applied to inputs and outputs should reflect their real scarcity in society. The values reflect the cost to society of resources used in the designated activity rather than any other activity or sector in the economy (Barnes and de Jager 1995:5). Economic prices are termed 'shadow prices' and the process of converting financial values (i.e. market prices) to

economic values is termed 'shadow pricing'. Shadow prices more closely represent the opportunity cost to society of the good or service; that is, the value of the good or service in its next best alternative use. In the economic analysis for this thesis, for example, unskilled and technically skilled labour wages are shadow priced. A detailed explanation of this example follows.

In Botswana, there is agreement that there is a surplus of unskilled labour that is underutilised. Because government and the private sector must pay at least minimum wages, the market price of labour is generally higher then the scarcity value of unskilled labour. For example, if an unskilled labourer is hired, the opportunity cost (or economic cost) to the country is the value of the output foregone when the individual drops what s/he was doing and accepts a new job. If the individual was not employed before, the opportunity cost is zero regardless of the minimum wage, because no output was lost elsewhere. More typically, the individual may have been underemployed rather than unemployed, such as working on the farm or engaged in part-time informal work. In both cases however, the economic cost of the unskilled labour is less than the wage actually paid. Therefore, the central planning authority, Ministry of Finance and Development Planning (MFDP), has agreed that the shadow price of unskilled labour should be estimated at 50 percent of the minimum wage (MFDP 1982:20, 1986:5; Behrman 1986:364).[1] Another case occurs in the economic analysis for this thesis, that of labour skilled in a technical area of craft production. In these cases, the shadow price has been placed at 90 percent of the market value, because it is assumed that opportunities for individuals with a specific handicraft skill may be limited and are not easily transferable to another occupation. Therefore, the person is employable but not 100 percent. Very little unemployment occurs in Botswana among skilled

[1] Unskilled labour is defined by MFDP as labour earning P6.85 or less per eight hour day (MFDP 1982:12). In Botswana general unemployment is significant but unlikely to be more than that in South Africa as a whole, and likely to be less than that for neighbouring Namibia. In Namibia in 1994, the shadow price of unskilled labour was coarsely estimated to be some 0.35 of the market price (Barnes, 1994b). It can be reasonably assumed that Botswana and South Africa have a similar shadow price. The Central Economic Advisory Service in South Africa (CEAS, 1989) made detailed estimates of 1987 shadow wages for unskilled labour in different development regions in that country. These estimates were based on the average income per earner in the region concerned. They were highest in the urbanised Gauteng (PWV) area and in the Western Cape, and lowest in the northern and eastern regions of the country. If one takes the average of the unskilled shadow wages estimated for the South African regions, and inflates it (by 10.85 percent per annum) to 1990 prices, it can then be compared with the financial wage for unskilled labour in Botswana. The result of this comparison is a factor of 0.46 to be applied to financial unskilled labour wages to arrive at the shadow wage. For this thesis, it thus seems reasonable to adopt the officially accepted factor of 0.5.

managers, and therefore the financial and economic costs of these individuals' wages are assumed to be equal (MFDP 1982:20).[2]

Training costs included in the analyses represent another divergence between financial and economic costs. Costs to train employees are real costs to private enterprises and are therefore calculated at market prices in the financial analysis. However in the economic analysis, training is not treated as a real cost to the economy, because the cost of training is assumed to be matched by the corresponding benefit to society of having available skilled citizens. Therefore, expenditures on training are assumed to be nil in the economic analysis (MFDP 1986:6).

Taxes, subsidies and domestic credit transactions are also treated differently in financial and economic analyses. In financial analysis, taxes are considered as a cost to an enterprise, while subsidies are considered as benefits. In contrast, from an economic point of view, taxes are not a cost at all, but merely a transfer of money from the private sector to government (i.e. the nation). The same is true for subsidies, which can take many forms such as reduction in cost of inputs (e.g. electricity) to protection from competition (e.g. import tariffs, local preference) to direct government support for loss-making enterprises. Being transfers, taxes and subsidies are not counted as either costs or benefits, and are thus taken out of economic Cost-Benefit Analysis (MFDP 1986:6). Likewise, credit transactions or debt service, such as domestic loan repayments of principal and interest, are also transfers and are left out of economic analysis (Gittinger 1982:251; Gregersen *et al* 1987).

During economic analysis, shadow prices are also used to adjust for distortions in market prices of traded items, which in turn reflect the social value of foreign exchange, especially for situations when there is excess demand for traded and tradable goods and services, as in Botswana (Gittinger *et al* 1982:251; Barnes and de Jager 1995:6). This adjustment is the shadow rate of foreign exchange and is termed foreign exchange premium. For Botswana, the foreign exchange premium is suggested to be ten percent by the creators of the Financial Assistance Policy (FAP) in MFDP. Therefore, all tradable items in the economic models are calculated at 1.10 times the market prices (at c.i.f. prices) (MFDP 1982:10&20). If traded items were taken

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[2] Others argue that the shadow wage for skilled management should be higher than the market price (Behrman 1986:351; Matambo 1988:2), but for this thesis the criteria from MFDP's Financial Assistance Policy (FAP) appraisal process, as it was in 1990, is used in order to facilitate logical comparison between production enterprises.

into a project or enterprise appraisal at an economic value by simply multiplying the border price (c.i.f. price) by the official exchange rate without adjusting with a foreign exchange premium, imported items would appear to be very inexpensive, and domestic items would be expensive. These values would encourage over-investment in projects that were using large amounts of imports (Gittinger 1982:248).

Explanation of Methods and Results of Financial and Economic Analyses

Static Models

Static models have been developed for both financial and economic analysis purposes.[3] The general assumptions for all of the static models and for specific models are described in Appendix 7.1. All the financial static models result in Annual Net Cash Income figures (i.e. all variable and overhead costs subtracted from gross income). This figure then leads to the calculation of Return on Investment (ROI) or the ratio Annual Net Cash Income to Total Initial Capital Investment, which is simply the income for one year minus expenses and depreciation divided by the total value of capital investment (Casler *et al* 1984:6). The ROI is useful as an initial indicator of financial profitability, and helps one to decide whether it is worth continuing the appraisal process. For instance, a negative number shows that the enterprise is not profitable, while a positive number below about ten percent (for Botswana) suggests poor profitability. A number above ten percent provides an initial indication that the enterprise is profitable. The ROI can also be used to rank alternative enterprises, by ranking from the highest to lowest percentage (Casler *et al* 1984:7).

Similarly, the economic static models have resulted in Annual Net Economic Benefit and Net Value Added figures, which reflect the gross and net value added contribution to national income. These figures have led to the following ratios: Gross Value Added to Total Initial Capital Cost, Net Value Added to Total Initial Capital Cost and Capital Cost to Employment Opportunity Created. The first two ratios are similar to the ROI, but in economic terms. They are calculated like the Annual Net Cash Income to Total Initial Capital Investment ratio, but the first one is calculated without considering depreciation, while the second one deducts depreciation. Both figures provide an initial indication of economic profitability along the same lines as the financial ROI. In addition, a difference between the financial ROI and the Net Value

[3] The static models are made up of the first six tables (Tables A-F) of each of the 21 enterprise models found in Appendix 7.1.

Added to Total Initial Capital Cost ratio provides an indication of the effects of either policy or market imperfections, which cause distortions. Capital Cost to Employment Opportunity Created is a per unit ratio that can be used to compare the ability of different enterprises to create employment efficiently.

The static models have mainly been created to develop figures for the dynamic models, because static models (and the ratios that can be calculated from them) on their own have limitations. Their main weakness is that they fail to consider the 'time value of money' (see below) (Gittinger 1982:304; Casler *et al* 1984:11&34). Therefore, it is important to include dynamic models, which have discounted cash flows, in any financial and economic appraisal.

Dynamic Models

The dynamic models have value flow tables, which show values of all benefits and costs estimated to occur year by year over the life of an enterprise or the period of analysis (in this thesis, five and ten year life spans are considered).[4] The financial dynamic models include cash flow tables, while the economic dynamic models have economic value flow tables (Gregersen *et al* 1987:11). All prices are in real, or constant monetary units, that is, they do not include inflation. Inflation is excluded because it is assumed that all prices will be affected equally by any rise in the general price level.

The value flow tables are discounted at rates established typically by governments' central planning authorities, in order to indicate the present value of money received at a future date (i.e. time value of money) (Gittinger 1982:308; Gregersen *et al* 1987:74). The time value of money is based on the concept that the amount of money we have today (say, one pula) is worth more than a pula that we might receive in the future, because we could invest today's pula to earn more money. Similarly, a cost of one pula incurred in the future by, say government, is less imposing than a cost of one pula today (Markandya and Pearce 1988:3). Discounting to obtain the present value of money is just the reverse process of compounding interest. When using compound interest, the present sum of money is known and we are able to determine the value of that money in the future if we were to invest it. When determining present value, the sum of money to be received in the future is known, but we are interested to know the present worth of

[4] In this thesis, Tables I-K in each of the 21 enterprise models found in Appendix 7.1. provide these analyses, while Tables G and H detail information needed for the dynamic models.

that future sum. We determine the present value by discounting (Casler *et al* 1984:11–14; Markandya and Pearce 1988:3).

Since inflation has been excluded from all prices, the discount rate is in real terms. Thus, the discount rate used in the financial analysis represents a 'typical' interest rate with inflation removed (Barnes and de Jager 1995:6; Gregersen *et al* 1987:80; TIPA 1987:11). The process of choosing a discount rate is notoriously controversial due to the fact that there are dozens of different interest rates used at any given time in any given country and there are different ways of choosing the 'correct' discount rate (Austin 1981:49; Dixon and Hufschmidt 1986:43; Markandya and Pearce 1988:5–6; Mishan 1988:226; Field 1994:121). Even though Botswana's MFDP issues statements suggesting different discount rates (MFDP 1982:20,1986:6–10; Matambo 1988:3), the discount rate for the economic analysis in this thesis (i.e. six percent) has been taken from MFDP's FAP appraisal format, as it was in 1990 (MFDP 1982:20, 1984:46; Behrman 1986:359;), in order to make the comparison process between productive enterprises possible and logical.

From the value flow tables, the streams of benefits and costs are evaluated to compare the various enterprises. Cost-Benefit Analysis is used to make this comparison, and for this thesis, four value measures are calculated: Net Present Value (NPV), Internal Rate of Return (IRR), Benefit/Cost (B/C) Ratio and Net-Benefit Investment Ratio (N/K). These measures have been calculated using Borland Quatro-Pro for DOS (Version 5.0) and are explained as follows:

Net Present Value (NPV)[5]

The first value measure in this thesis, the NPV, determines the present value of the net benefits (income stream) generated by the enterprise's investment when discounted at the opportunity cost of capital (in this case for Botswana, at six percent). The formal selection criterion for NPV is to accept all independent enterprises or projects with a zero or greater than zero NPV. If the NPV worked out to be negative (i.e. when the present value of the benefit stream is less than the present value of the cost stream) then the benefits would be insufficient to recover investment (Markandya and Pearce 1988:3). In this situation the investors would be better off putting their

[5] More specifically, the Financial Net Present Value (FNPV) for the financial analysis and the Economic Net Present Value (ENPV) for the economic analysis.

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money in the bank at the assumed interest rate or investing in a more viable project or enterprise (Gittinger 1982:329).

With NPV, no ranking of acceptable alternative independent projects is possible because NPV is an absolute, not a relative, measure. For instance a small, highly attractive project may have a smaller NPV than a larger, marginally acceptable project (Gittinger 1982:329). However, the NPV does represent the 'economic objective': to maximise for investment of available scarce resources (Markandya and Pearce 1988:3). Of the four measures used in this thesis, it is the only one that gives the magnitude of net benefits. Thus Dixon and Hufschmidt (1986:48) argue that it must be included in any choice criterion for accepting or rejecting projects. However, NPV says nothing about returns per unit of scarce factor (e.g. cost or a total budget).

NPV can be used very effectively to compare two mutually exclusive alternatives where the investment and lifespans are the same for each alternative (Weston and Brigham 1980:411; Casler *et al* 1984:30). In fact, it is the only measure of the three that will lead to a correct selection in these cases (Dixon and Hufschmidt 1986:48). In cases where projects are not mutually exclusive, and there are no constraints on investment costs, all projects that yield a positive NPV can be chosen. If all positive-yielding projects cannot be selected because of cost constraints, then the goal is to select a set of projects which yields the greatest total NPV (Gregersen *et al* 1987:78).

Internal Rate of Return (IRR)[6]

IRR is the return to the enterprise's capital engaged over the life of the project, and therefore a very useful measure of project worth (Gittinger 1982:331; Dixon and Hufschmidt 1986:46). In other words, the IRR is the maximum interest that an enterprise could pay for the resources invested for the project to recover its investment and operating costs and break even. Effectively, the IRR equation establishes the discount rate that makes the NPV equal to zero (Gittinger 1982:329; Mishan 1988:233). The formal selection criteria for an enterprise using the IRR calculation is that the IRR should be equal to or greater than the opportunity cost of capital (Gittinger 1982:331). In the case of Botswana, this means equal or greater than six percent for both financial and economic analyses.

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[6] More specifically IRR is referred as Private or Financial Rate of Return (FRR) for the financial analysis and Social or Economic Rate of Return (ERR) for the economic analysis.

Enterprises can only be ranked in a general way based on the IRR. The IRR can determine which enterprise is better than another by showing which contributes more to national income relative to resources used (Gittinger 1982:331). As an example, the IRR can indicate that a project with a 25 percent economic rate of return (ERR) is likely to be a better investment than a project with a 15 percent ERR, but it cannot say with confidence that the former contributes more to the national economy than the latter.

Similarly, the IRR cannot be easily used to compare mutually exclusive investments, because it might lead to an erroneous choice. When having to choose one project at the expense of another, using the NPV criterion would be better (Gittinger 1982:331; Mishan 1988:241).

There are two other disadvantages of IRR. The IRR can only be calculated when at least one value in the cash flow is negative. If all the values are positive, no discount rate can make the NPV of the stream equal zero. No matter how high the discount rate, the NPV of the stream would have to be positive if it includes no negative number (Gittinger 1982:331). To minimise these occurrences, 'Year 0' is included in the models with the assumption that initial capital investments occur in the year before significant production and income occurs. Another problem that can occur with IRR calculations is in those occasional cases when IRR yields more than one discount rate. This situation can occur only in an activity that has several years of positive cash flow sizable enough to create a cumulative positive present value, then followed by several years with negative cash flows that lead to a cumulative NPV that is negative (Gittinger 1982:339; Mishan 1988:241).

Benefit/Cost (B/C) Ratio

The Benefit/Cost (B/C) Ratio is calculated as the sum of the discounted benefits divided by the sum of the discounted costs (Dixon and Hufschmidt 1986:47; MFDP 1986:Annex 6.1; Gregersen *et al* 1987:77). The B/C Ratio should be equal to one or more, at the opportunity cost of capital. If it is less than one, the present worth of the costs at the given discount rate would have exceeded the present worth of the benefits. Therefore, neither the initial investment nor the return on the investment would have been recovered from the enterprise operation. The formal selection criteria for the B/C ratio measure of project worth is to accept all independent projects with a B/C Ratio of one or greater when the cost and benefit streams are discounted at the opportunity cost of capital (Gittinger 1982:345).

This measure is specifically designed to enable meaningful comparison between enterprises of very different sizes. For instance, a large, formal production unit will most likely have a higher absolute NPV than a small, informal enterprise. Nevertheless, it may be worthwhile supporting the small enterprise first if the B/C Ratio strongly favours the small one (MFDP 1986:6–14 & Annex 6.1). The B/C Ratio is also good for noting how much costs could rise by, or benefits fall by, without making the project economically unattractive (Gittinger 1982:345). Another advantage of the B/C Ratio in contrast to IRR and N/K Ratio is that the calculation of the B/C Ratio is not dependent on having a mixture of negative and positive values in the net benefit stream. Because the B/C Ratio is a ratio of benefits to costs, the B/C Ratio can still be calculated even if all the annual net values of an enterprise are positive. The B/C Ratio is not very good for ranking projects, because the ratio can lead to wrong choices by discriminating against projects with relatively high gross returns and operating costs, even though they may have a greater wealth-generating capacity than that of alternatives with a higher B/C Ratio.

Net Benefit-Investment Ratio (N/K)

The N/K Ratio is the present value of the net benefits divided by the present value of the investment. More specifically, using the net benefit stream, the N/K equals the sum of present values after the net benefit stream has turned positive divided by the sum of the present value of the net benefit stream in the early years of the project when the stream is still negative (Gittinger 1982:347).

Projects can be selected using the N/K ratio when the N/K is one or greater, using the discount rate at the opportunity cost of capital. Independent projects can then be selected in order, beginning with the largest ratio and moving towards the smallest until all available investment funds are exhausted. This selection process of independent projects ends up maximising the return per unit of available investment, which in turn ends up maximising the NPV of a group of projects. Ultimately the process maximises the income stream and that is the objective of most programmes of project investments. Clearly the N/K Ratio is very useful for ranking independent projects to determine in which order projects should be undertaken (Gittinger 1982:347–349). The one disadvantage of the N/K ratio is that, like the IRR, the ratio cannot be calculated if there are only positive values in the net benefit stream.

APPENDIX 6.1

BOTSWANA'S HANDICRAFT SECTOR: SPECIFIC COMMENTS DURING THE SURVEYS

BOX 6.1 THE IMPORTANCE OF EARNING MONEY FROM CRAFT PRODUCTION ACCORDING TO INDIVIDUAL PRODUCERS

Very Important

One basketmaker in Danega (farming area for Gomare in Ngamiland District) said, "In Danega there are no jobs, so basketmaking is the only way that people can earn money."

Another weaver, from Chobe, said "Our lives depend on baskets."

"For me, it is very important. Without crafts I wouldn't be living like this."

"Because we are self-employed, we send our children to school from our basketmaking."

A male basketmaker from Serowe, exclaimed, "The only way to make money is from baskets. If I quit making baskets, maybe I would have to start stealing goats."

A *kgotla* chair-maker near Mahalapye said, "I have brought-up my family through these chairs."

One woodcarver in Thamaga, in south-eastern Botswana, mentioned, "Usually my best source of income is through the sale of crops. However, during drought periods, handicraft sales takes over in importance."

An Etsha woodcarver explained, "I know my children will not go hungry."

"I have seen that craftwork is good because I have money unlike others in my village."

"In 1989, I noticed that two other women were making money from beaded crafts, so I watched them and copied their style and made money too."

"I first learned pottery from my mother, but I gave it up a long time ago. Recently I have taken it up again because my husband lost his job."

"For me, crafts is my employment. Instead of working in Lobatse for P80 per month, I can make crafts and I don't have to spend any money on transportation."

"In the old days we used to be like slaves for other people, fetching water and other small jobs. Now we make and sell baskets and we are independent."

"Look at those people, basketmaking has provided jobs for the handicapped."

"The people in Serowe who are carving are usually the uneducated ones. It is important for those people that they can carve, earn some money, and keep alive."

(Continued on next page)

BOX 6.1 (continued)

Not Very Important

"Everyone here is working on crafts, but everyone is poor, no one seems to gain anything from it."

"The money we earn is only for household needs, and the production here is too low to get any recognition from government."

"Crafts will only become important if there is a better market for our crafts."

"None of my sources of income are important. I do not earn a decent amount from any of them!"

Providing an example of the tenuous pattern of many craft producers' lives, one Bushman basket-weaver living near Nata tells her story:

> "Finding money through ploughing under the ARAP programme used to be the best. But that only lasted a few years. Now there's nothing! My daughter can't find any more houses to re-mud. She used to get money from that. And I cannot find any place to sell my baskets. Ever year we get one goat from *mafiso.*[1] That goat can give us three or four baby goats a year. Last year we were able to sell two goats. One for P40 and one for P50. So that P90 was our only money all year."

[1] *Mafiso* is the system in which people take care of a wealthier person's livestock and then receive payment with offspring.

BOX 6.2 THE IMPORTANCE OF CRAFTS FOR VILLAGE DEVELOPMENT ACCORDING TO INDIVIDUAL PRODUCERS

"This production unit has hired a lot of people who could not be working anywhere else. Mostly old people were hired, not the young people who could travel to Gaborone and find jobs."

"Our children do not suffer."

"No one is starving."

"Before this production unit came here, Oodi was a poor village. We were only getting water from rivers and hand-built dams. This project helped the village to get a water system with piped water."

"In Oodi, we built three classrooms with money raised from Oodi weavers."

"We can send our children to school."

"It has made us civilised as I was able to educate my children."

"Educating our children is a step forward in the development of our village."

"Because I am making baskets I can help to develop my village. You see from basketmaking I have money. With this money I can buy things from another villager's business, and then that person can buy from others."

BOX 6.3 CRAFTS' CONTRIBUTION TO CULTURE ACCORDING TO INDIVIDUAL PRODUCERS

Preservation of Culture

"If you do not know any handwork, you have no culture."

"We have heard thumb piano music on the radio."

"People can buy skin mats and then show their children what the Tswana use for sleeping."

"Young children and future generations will be able to see the animals of Botswana through woodcarvings, even if no more animals are alive."

"By drawing or carving things we see in the wild, we are not just imitating what our ancestors used to do, we are preventing our culture from disappearing."

"If we were not making crafts, the future generation would know nothing about their cultural heritage."

Commodification of Culture

One Etsha basketmaker explained, "Our old parents were using baskets long ago. We still make baskets because we do not want to leave our culture. We make baskets as a remembrance even if we are also selling them."

A Mbukushu women noted, "Our culture uses baskets and wears wigs. Now we are selling our culture."

"We have fed our children from this culture."

"Anyone who buys a bow and arrow and holds it, is holding the culture of the Bushman and of Botswana."

Evolving Culture

One Etsha basketmaker said, "Many people are interested in my baskets. Even if some people are not using them, they display them in their homes."

One Yei weaver noted, "Long ago there used to be no designs on our baskets. These days our culture is developing because we now put designs on our baskets and they are seen all over the country."

"We are still making baskets even though we make them in different sizes and shapes."

"People were losing interest in traditional *kgotla* chairs, but now that we are making them in a more modern way, people have renewed their interest and the culture is protected."

"People are learning how to use skins in a different way from the past, but they are still using skins."

BOX 6.3 (continued)

Specific Tribal Culture

"Things are changing now, but people from outside can still see the Subiya culture through our basketmaking."

"People buy our skin mats to show their children what the Baphaleng used to do in the old days."

A Bushman women, mentioned, "Pictures are taken of our work and shown at museums. People are told this represents our culture."

"I make thumb pianos and drums. This keeps our music and our culture alive."

"Our fathers told us to never leave craftmaking, never leave our culture, because we will never find it anywhere else."

"The Tswana can get to know us [the Bushmen] better through our crafts. And then we will be more like one nation working together and living together."

National Culture

"People here are becoming westernised. The kids are losing their own cultural identity. Craft is a way to carry on the cultures of Botswana. All our children can learn and understand about our culture if craft products are distributed around the country."

"Many men carve in Botswana using their own styles and ideas from their own culture. All this work adds to the national culture of Botswana."

"Many people from around the world come to our village to buy crafts and to learn about Botswana."

"Craftmaking is one way to let foreigners learn about our country and our culture."

"When we teach our children, it is a sign to other nations that we are not running away from what our ancestors were doing."

BOX 6.4	MARKETING OUTLETS' OPINIONS ON WHY CERTAIN CRAFTS ARE THE BEST SELLERS
Baskets:	unique to Botswana, good for decorating, useful, are real works of art, are of high quality, make good gifts, producers live in area so visitors want to buy something from the area
Clothing:	easy to pack and transport
Contemporary leather goods:	high quality, no competition, fashion item, practical
Textiles:	speciality product, easy to pack and transport
T-shirts:	make good, easy gifts
Karosses:	made in the area and visitors want to buy something from the area
Pottery:	made here and visitors want to buy something from the area
Bushman crafts:	representative and unique to Botswana

BOX 6.5	MARKETING OUTLETS' OPINIONS ON WHY CERTAIN CRAFTS ARE THE WORST SELLERS
Clothing (excluding T-shirts):	poor quality, cannot compete with commercial chain stores from South Africa, too expensive for inferior quality
Tapestries:	expensive
Pottery:	breaks easily
Baskets:	too bulky and heavy
Woodcarvings:	too bulky and heavy, poor finish
Tortoise-shell 'powder puffs':	people think these tortoises are conserved or should be conserved
Soapstone carvings:	too heavy

BOX 6.6 OTHER PRODUCTS THAT CRAFT MARKETERS WOULD LIKE TO BE ABLE TO STOCK

high quality woodcarvings
high quality leather goods
ostrich eggshells
"anything new"
elephant-hair bracelets
soapstone carvings
more handmade jewellery
Bushman wooden items
Herero wooden pots
clay pots
more printed fabrics
cheap baskets
utilitarian baskets
large skin mats
goat skins

BOX 6.7 PERCEPTIONS OF PRODUCERS IN AREAS WITHOUT A SIGNIFICANT CRAFT MARKET

Nata Area Basketmakers

"We would make more baskets if we had a regular market."

"Our problem is that we have no buyers so we stop making baskets. If a buyer does come here, they do not tell us they are going to come, so we do not have any baskets ready for them. When Botswanacraft used to come, they would make an appointment, let us know when they were coming, and then they would find many baskets."

"I used to be able to buy myself dresses and food for my family when I had good sales. Not any more."

"If there were buyers we could make a lot of money."

"We can no longer help to develop our village because we basketmakers no longer make any money."

"Basketry is the only knowledge I have, so I must still use it for myself, even if I no longer make any money."

Western Ngamiland Beadworkers

"My products used to sell well, these days no one comes to buy."

"I used to be the most important income earner in my household, but no more."

"When buyers used to come here, I could buy cattle with my earnings from crafts. Now I cannot. You must possess at least one domestic animal to feel like a human being."

"I don't have any other skill. Now my family has to live on hand-outs."

"When the market was good, craftmaking was important, but not now."

"I have no education, so it is impossible to find other work. Why can't another organisation come here to buy?"

"No one cares about us anymore."

"I am very discouraged about the market. Should I continue to make beadwork or not?"

Mosetlha Area Potters

"Our market is very far away."

"Pottery is my only way to make a living, because my husband is no longer working, but it is difficult because the market is so far away."

BOX 6.8 NATURAL RESOURCE ISSUES AND CRAFT PRODUCTION ACCORDING TO INDIVIDUAL PRODUCERS

A woman skinworker in Kgalagadi District, says, "There's no problems to get skins, there are many suppliers. The only problem is to have the money to buy the skin."

Hunter in Kgalagadi, however, says, "I can't kill enough animals for craft production. There isn't much game."

Also in Kgalagadi District, a beadworker says, "There's no problem to get the ostrich eggshells for the beads, but the sinew is difficult to get. The men must travel long distances to find the animals."

"There are many tortoises when the rains come. If we are going to eat the meat anyway it is good that we can use the shell for crafts."

Another hunter says the problem is with the Department of Wildlife regulations, "You can only use a single game licence once, and that licence does not allow you to sell the products made from it. The Department of Wildlife only comes here once a year. How can we get the other licenses?"

A Serowe carver says, "I fear, in the future, government will stop us from cutting down trees, then I would no longer be able to carve."

A woodcarver in Etsha says, "The wood is very far away and the prices for buying our crafts is very low. People don't consider the distances and trouble it takes to get the wood to make our products."

One of the best basket-weavers in Gomare claims to have only made P63 worth of baskets in 1989 because of lack of raw materials, "Like today, I am doing nothing because there is no *mokola* palm."

Related to the use of waste products

From *Somarelang Tikologo* Newsletter, March 1996, by R. Masilo:

Some women from Seleka village said,

"...we involved ourselves in the weaving and crocheting with plastic bags because we were tired of sitting for months between harvesting and ploughing seasons doing nothing except to share the tree shade with lizards...But now we cannot quit, it is our employment, even though it does not pay a fortune. It is a complete commitment."

APPENDIX 6.2

STATISTICAL TEST RESULTS

FOR CHAPTER 6, TABLE 6.18: SOURCES AND AMOUNT OF ANNUAL INCOME (IN PULA) BY LOCATION, TYPE OF PRODUCTION, GENDER AND CRAFT CATEGORIES

T-test and ANOVA statistical tests were run on the income data presented in Table 6.18. See Appendix 5.7 for an explanation of these tests. The results of these tests follows.

The **t-test** determines the significance of difference between the means of two independent samples at the .05 level of significance. Unless indicated otherwise the t-value was calculated using the separate variance estimate (equal population variances in two groups not assumed) rather than the pooled variance estimate (equal variances assumed). See Appendix 5.7.

Results of t-tests

Between urban and rural producers: Household (HH) employment income statistically significant t-value = 2.57, d.f. 21.21, p = .018; HH non-employment income statistically insignificant t-value = 1.04, d.f. 22.06, p = .310; craft income statistically significant t-value = 7.44, d.f. 22.41, p = .000; total HH income statistically significant t-value = 5.13, d.f. 20.68, p = .000.

Between formal and informal producers: HH employment income statistically significant t-value = -3.80, d.f. 48.86, p = .000; HH non-employment income statistically insignificant t-value = -1.04, d.f. 51.55, p = .169; craft income statistically significant t-value = -11.78, d.f. 53.77, p = .000; total HH income statistically significant t-value = -6.74, d.f. 47.16, p = .000.

For male and female producers: HH employment income statistically significant t-value = -2.98, d.f. 276.08, p = .003; HH non-employment income statistically insignificant for pooled variance estimate t-value = .16, d.f. 333, p = .876; craft income statistically significant t-value = 2.64, d.f. 109.71, p = .010; total HH income statistically insignificant for pooled variance estimate t-value = -.28, d.f. 316, p = .778.

Results of ANOVA for the means of the different craft categories at the .05 level of significance: HH employment income statistically different d.f. 9 and 322, f-value=5.93, p=.000; HH non-employment income statistically insignificant d.f. 9 and 325, f-value=.9336, p=.495; craft income statistically different d.f. 9 and 318, f-value=34.18, p=.000; total HH income statistically different d.f. 9 and 308, f-value=14.61, p=.000.

APPENDIX 7.1

FINANCIAL AND ECONOMIC MODELS AND THEIR ASSUMPTIONS

This appendix covers the assumptions for all of the financial and economic models developed for this thesis. The assumptions are followed by the models. A detailed explanation of these financial and economic analysis methods can be found in Appendix 5.7, the appendix associated with Chapter 5 on research methodology. An explanation of the various calculations and ratios is also found in that appendix.

GENERAL ASSUMPTIONS FOR ALL MODELS

Static Models

Static models represent one year in full production. Figures represent averages or a 'typical' situation for the different enterprise types as drawn from the surveys conducted for this thesis. Other figures come from actual enterprise financial statements and from a Ministry of Commerce and Industry document on industrial costs (TIPA 1987). All of these figures have been adjusted for inflation to 1990 values. Some figures represent 'best guess' estimates when no concrete source is available. All figures are in Botswana pula and represent actual prices for 1990/1991.

Domestic items cover those items that cannot, or are unlikely, to be traded outside Botswana. Tradable items are, or could be traded, internationally. Contingency values of five and ten percent are added to fixed and movable capital items, respectively. Long-term capital loans (amortisation and interest), when applicable, are charged an interest rate of ten percent over the life of the asset or over 20 years whichever is shorter. It is assumed in these models that all capital, including start-up working capital, will be supplied by equity and/or a FAP grant, except where noted differently within the assumptions for a specific model. However, a loan element is included in all capital requirements tables covering the possibility of enterprises taking loans.

In the financial static models, net cash income, before any income tax, is derived by subtracting annual financial expenditures from annual gross income. The financial expenditures include:

all variable costs – direct costs that typically vary from year to year and are usually affected by production rates,

overhead operating costs – operating expenses that typically remain fixed each year,

insurance – for some enterprises, insurance costs are calculated at five percent of the value of movable assets; others choose not to take insurance

maintenance and repair – based on one percent of fixed capital items and five percent of movable capital items,

provision for capital replacement (depreciation) – all capital items are listed at cost and are depreciated using the straight line method over varying time periods depending on the life span of the individual item,

short-term interest on working capital – assumed at a rate of 15 percent per annum on an overdraft amounting to 30 percent of the variable and overhead costs. This calculation is only found under the formal craft production unit models (models 5 – 10), formal non-craft enterprise models (models 15, 16, 18, 19, 20) and the marketing model (model M1), and assumes that the enterprise only needs to have an overdraft for about one-third of the year; the rest of the year expenses are covered by income from production,

and any rental fees – for land, buildings and other property.

Economic static models are subjected to shadow pricing, and therefore measure the value of enterprises in economic prices. The shadow price for unskilled labour is assumed to be 50 percent of the market price, while the value of skilled management is equal to market prices. For the production unit enterprise models 5 to 10 and 16, 18, 19, the shadow price for technically skilled labour is assumed to be 90 percent of market price. For the one-person enterprises depicted in models 1 to 4 and 11, the shadow price for technically skilled labour is calculated at the opportunity cost of that specific individual's time (that is, the wage foregone by using the person's labour in craft production instead of in the next best alternative wage activity).[1] The

[1] Andrews and Manamela (1991:56) note there is an absence of empirical study on the opportunity cost of labour in rural areas for Botswana. Because of this lack, the prevailing viewpoint is to value the opportunity cost of labour at half the lowest industrial class wage paid by government. Through this thesis research, it was possible to estimate the opportunity cost of labour for the rural, informal craftworkers, and this information contributes to the body of knowledge found in Botswana on the economic valuation of labour.

calculation of the shadow price in these models infers that a specific producer is only able to do one type of craftwork, because of cultural factors and skills. Therefore, all shadow wages are based on some type of non-craft income-generating activity. The shadow wage is also derived with the assumption that any individual rural craftworker is not occupied absolutely full-time, year-round with craft production. Other income-generating activities are pursued such as subsistence farming, hunting, or gathering (in which some surplus products are sold), paid farm labour, beer-brewing and drought relief jobs. Incomes from these relatively common activities are, thus, not used in the calculations of shadow wages. Less common, but possible activities, are used instead. Information under the specific assumptions for each one-person entrepreneur model (models 1– 4 and 11) describes both the common and the alternative income activities.

Tradable items are subject to a foreign exchange premium of ten percent. Where domestic transfers (e.g. licences, fees, taxes, loans), influence financial prices, they have been removed from the economic models. Expenditures on staff and design training are assumed to be nil in economic terms, because the cost to the enterprise results in a benefit to the nation (through the post-project availability of trained citizens). For all other domestic costs and benefits, financial values (market prices) are assumed to reflect economic values.

The economic static models result in an annual net economic benefit (i.e. an estimate of gross value added). Depreciation is then deducted to derive an estimate of net value added contribution to the national income.

Calculations and interpretations of all financial and economic analyses, such as Annual Net Cash Income/Total Initial Capital Investment, Gross Value Added/Total Initial Capital Cost, Net Value Added/Total Initial Capital Cost, Capital Cost/Employment Opportunity Created, are discussed in Appendix 5.7, the appendix associated with Chapter 5 on research methodology.

Dynamic Models

The figures used in the dynamic models have been derived from the static models. The dynamic models are presented over five and ten year periods, and measure Internal Rate of Return (IRR), Net Present Value (NPV), Benefit-Cost (B/C) Ratio and Net Benefit-Investment (N/K) Ratio. 'Year 0' has been included in the models where initial costs are incurred and no production or sales have begun to provide benefits. This inclusion assumes that initial expenses must be covered for capital goods before production can begin. It also insures that all the analysis

measures can be calculated because the formulas are dependent on having a loss in at least one year.

Table G of each model describes the possible phasing of the capital expenditure, depreciation schedule and residual value. The capital phasing varies per model depending on whether all capital items must be bought in the first year or if the expense can be split between Year 0 and Year 1. The year for replacement is based on the expected life of each individual item. Depreciable assets are categorised based on their expected life span from four to 40 years, and are labelled, for example '40 Year' Items, '6 Year' Items, etc. Residual value represents the value of an individual asset remaining unused at the end of each year, and finally at the end of the enterprise life, such as after five years or ten years. The terminal residual value is added to the benefit stream in the last year of the enterprise.

In the dynamic models, certain considerations are made regarding timing of production and sales, as follows:

As for the formal craft production units (models 5–10), the non-craft activities (models 11–20), and the craft marketing enterprise (model M1), full production is only obtained in Year 3, and then continues at a full-production rate throughout the remaining years. During Year 2 production is at 75 percent of full production, while Year 1 only represents 50 percent of full production. Thus, the variable expenditure (such as raw materials) and gross income (sales) for Years 1 and 2 have been calculated at 50 percent and 75 percent, respectively, of full production. These calculations are based on the assumption that formal craft enterprises need time to buy equipment, hire and train skilled staff, and therefore, the full amount of raw materials will not be needed for the first two years once production begins. Similarly, full production and sales will be delayed until a full contingent of trained staff is available and markets are in place.

Regarding the informal, non-craft enterprises, the assumptions for production are similar, but emphasise the point that the entrepreneurs need time to build up a clientele/market, and therefore do not fully invest in materials during Years 1 and 2. Because it takes some time to find their clients, they also probably cannot pay themselves full wages in these two years. Only during Year 3 are full investment, production and sales reached.

The assumptions for the informal, one-person craft enterprises (models 1– 4) are different from the others. These assumptions include: the producer already has some craft skills because of the traditional nature of the work, and the full amount of variable and overhead expenditures start in Year 1 because the producer starts out in full production. While the market is present and satisfactory, full sales are not reached until Year 2. During Year 1, the entrepreneur is only able to sell 80 percent of the items produced because his/her traditional skill level has not fully reached the level needed for commercial sales (i.e. 20 percent of the products made are rejected by the commercial market).

Financial dynamic models use constant prices, include capital expenditure, account for depreciation by including asset residual values, and exclude interest. They result in an estimate of the Financial Net Present Value (FNPV) before consideration of financing costs, the Financial Rate of Return (FRR), the financial Benefit/Cost (B/C) Ratio and the financial Net Benefit-Investment Ratio (N/K). Economic dynamic models, being shadow priced, measure value of enterprises in economic prices before consideration of economic opportunity costs of land and government expenditures, such as advisory extension services. They result in estimates of the Economic Net Present Value (ENPV), the Economic Rate of Return (ERR), the economic Benefit/Cost (B/C) Ratio and the economic Net Benefit-Investment Ratio (N/K). Calculations and interpretations of all these financial and economic analyses, are discussed in Appendix 5.7.

SPECIFIC ASSUMPTIONS FOR INDIVIDUAL CRAFT MODELS

This next section describes the specific assumptions for ten enterprise models representing the different craft categories surveyed for this thesis.

For Model 1: Basketry Enterprise

This model represents one of the typical, informal craft enterprises found in rural areas, that is, a one-person operation making and selling baskets, without any paid assistants. In most cases women are the basket weavers, but men do weave winnowing baskets in Central District and mats in Ngamiland District. This model depicts a woman who makes open and closed baskets using the coil method with palm fibres.

1. This model contains no provision for capital expenditure related to buildings, vehicles, or furniture. The typical basketmaker works on the ground, without any furniture, under a tree or shelter (constructed for household living, not craft production specifically).

Even if weavers could afford vehicles they would not really be necessary in Botswana, because usually the buyer comes to the weavers' village or is based in the weavers' area.

2. Production equipment includes tools for collecting and processing the raw materials, including knife or sickle, hoe and axe. The figure under the 'unit' column in the model represents the portion of time that a tool is used for basketmaking, versus other domestic or agricultural use. A mortar and pestle for stamping the bark and root materials for dyes, and a three-legged cast iron pot for the dyeing are not included in the model, because the portion of time this equipment is used for basketmaking in comparison to household food preparation is marginal. Similarly an enamel container for holding water during the weaving process is also not included, because this container is primarily used as a food container. The main tool needed during the weaving process is an awl (a sharpened piece of metal usually inserted into a wooden handle).

3. This model assumes that a basketmaker would not have to borrow money and pay interest for any working capital, because the money needed to buy raw materials is marginal, and many weavers collect their materials rather than buy them.

4. This model represents a basketmaker who can make both open/bowl-shaped baskets and closed/lidded baskets. As a sideline, a few bangles are woven from palm fibre. Due to the exacting nature of the work and other duties (e.g. agricultural work, housework and other income-generating activities), baskets are not made in one stretch of time or worked on every day of the year. Thus, one open basket is typically produced over the course of two weeks, while one average-sized closed basket can be made per month. This model allows for these time factors and estimates that 23 baskets (20 open and three closed) could be made per year, plus 24 woven bangles.

5. The only variable and operating overhead expenditures for basketmaking are purchases of raw materials, wages and tool repair. These are based on average and modal figures taken from all the basketmakers surveyed.

Although only about 30 percent of the basketmakers buy raw materials on a regular basis, raw materials are priced at market prices as if the materials were purchased. (Below, wage calculations do not include the time for collecting and processing based

on the assumption that the materials are purchased). Raw material costs are based on the following calculations:

> Approximately 2.6 bundles of palm are needed to make one average-sized open basket, thus 52 bundles are needed for 20 open baskets. Approximately five bundles are needed for an average-sized closed basket, or 15 bundles for three closed baskets. Roughly one bundle can produce 24 bangles. Therefore, a total of 68 bundles of palm is needed per year. It is also assumed that weavers on average are using white and dyed palm at a 1:1 ratio. Dyed palm is more expensive than the white palm because of the time/cost to collect the dye materials and to dye the palm. The interior core material (grass or vine) is not costed because these materials are almost always collected rather than bought and the collection and processing time is negligible.

Wages are based on annual income figures for basketmakers in Botswana, and estimate that if basketmakers were paying themselves a wage, they would be earning the equivalent of 40 thebe per hour for their work (i.e. P217/year divided by about 550 hours of work equals about 40 thebe per hour). The average-sized open basket (about 42cm, which reflects the amount of work to weave by measuring the diameter across plus the vertical distance to the baseline) takes about 25 hours of constant effort to produce (including five hours for collecting and processing the raw materials, and 20 hours to weave). An average-sized closed basket (about 85cm measuring the vertical circumference including the lid) takes an estimated 50 hours to produce (five hours for collecting and processing the raw materials, and 45 hours to weave). One bangle takes about a half hour or less to produce. Due to the assumption in this model that the raw materials are purchased rather than collected and processed, only weaving time is included in the annual time calculations. This model represents approximately 550 hours of actual work per annum as follows:

20 open baskets x 20 hours =	400 hours
3 closed baskets x 45 hours =	135 hours
24 bangles x 30 minutes =	12 hours
Total =	547 hours

6. The shadow wage in the economic models is based on the opportunity cost of the producer's labour, that is wages or income earned from other work that the individual

might be able to do if they were occupying themselves with the next best alternative work after craftwork.

A female basketmaker could be typically engaged in the following activities along with basketmaking on an annual basis (and thus these activities would not be included to develop a shadow wage):

- agricultural work for the equivalent of about three months of labour at a rate of P6.00 per day or 75 thebe per hour[2];
- beer-brewing for three to four months of the year (dependant on availability of Grewia fruit or surplus of sorghum crop; both highly affected by drought conditions, also limited by local market) earning a rate of P6.00 per day or 75 thebe per hour;
- drought relief jobs: limited to 20 days per person per year at P2.50 for a six-hour day (42 thebe per hour), assuming that the Labour Based Relief Programme (LBRP) rules are followed.

The shadow wage is based on an activity that a basketmaker could do if there was no basketmaking. This activity is the collection and sale of thatching grass and/or reeds for house and fence building. The going rates are P1.50 per bundle of grass and P2.50 per bundle of reeds. Therefore taking an average of these two, one bundle is priced at P2.00. Because grass/reed collection is limited to certain seasons, difficulties of transportation, and limited market, it is assumed that they can be only collected for about one month each year, and about 90 bundles per woman would be collected during this period. Thus the shadow wage is calculated as P2.00 x 90 bundles = P180.

[2] As reported in the Farm Management Survey of 1988. The mean gross margins are based on an aggregate crop income per person day for two survey sites in Ngamiland District. Total incomes of all surveyed crops (N=10) were estimated (outputs x local prices) and related to estimates of labour inputs (family and hired) derived from focussed assessments at each site (as cited in Bishop and Scoones 1994:44).

For Model 2: Beadwork Enterprise

This model represents another typical, informal craft enterprise found in rural areas, that is, a one-person operation making and selling beadwork products. In almost all cases, women are the beadworkers, and they work without any paid assistants. This model depicts a woman who makes products made with beads mainly from ostrich eggshell and various plant products (e.g. seeds, branches, roots).

1. For the same reasons as in basketry production (Model 1), this model contains no provision for capital expenditure related to buildings, vehicles, or furniture.

2. Production equipment includes tools for collecting and preparing the raw materials, including axe, knife, *tsessebe* horn (a 'tool' found in the bush, used to chip the eggshell fragments into smaller pieces) and sharpening stone (for smoothing the eggshell beads). In the past a stone found in the bush was utilised, but today, a store-bought sharpening stone is frequently preferred. A long-handled awl is needed for drilling the hole in each bead during the initial stage, while a short handled awl perfects the hole. The figure under the 'unit' column in the model represents the portion of time that a tool is used for beadwork, versus other domestic use.

3. Same assumption as in basketry production (Model 1, Assumption 3).

4. Beadworkers, as represented in this model, work mainly with ostrich eggshell beads to produce various items, including: necklace strands, bracelets and belts. Sometimes various plant parts, such as seeds or branches, are incorporated into the jewellery design along side the ostrich eggshell beads. Both eggshell and glass beads are used to decorate skin bags. Other beadworkers in some parts of Botswana primarily use glass beads in all their products, but this type of craftsperson is not depicted here.

   Based on data from the survey of beadworkers and from Gantsi Craft (NGO marketing organisation in Ghanzi District) figures, this model assumes that one of each type of piece is sold during each buying session and there are seven buying sessions per year. Sale prices for the different pieces are as follows: ostrich eggshell strand necklace = P9, ostrich eggshell bracelet = P7, ostrich eggshell belt = P18, ostrich eggshell or glass beaded decorated bag = P10 for a total sale value of P308 per year.

5. The only variable and operating overhead expenditures for beadwork are purchases of raw materials, wages and tool repair. These are based on average and modal figures taken from all the beadworkers surveyed.

Raw materials are expenses, based at market prices as an estimate of the amount of raw materials that might be purchased. Only 25 percent of the beadworkers claim to buy raw materials, and even fewer on any regular basis. Ostrich eggshell fragments are typically collected opportunistically, therefore no expense is involved. Sinew is a bi-product of an animal killed for meat, and if sinew was not used for craftwork it would be thrown away. Plant seeds and branches do not appear to be traded at all. This model only depicts a small amount of purchased glass beads, with the assumption that this entrepreneur mainly uses ostrich eggshell beads.

Wages are based on annual income figures for beadworkers in Botswana, and estimate that if beadworkers were paying themselves a wage, they would be earning the equivalent of .32 thebe per hour for their work. The value of the producer's time (or wages) is based on time needed for collection and processing raw materials, and production. The following assumptions about time are made: 3 days (or 24 hours) to make an ostrich eggshell strand necklace, 3 days (or 24 hours) for an ostrich eggshell bracelet, 6 days (or 48 hours) for ostrich eggshell belt, and 3 days (or 24 hours) for an ostrich eggshell or glass beaded decorated bag, for a total of 120 hours for these 4 pieces. Assuming that one of each piece is sold during each buying session and there are seven buying sessions per year than approximately 840 hours per year are spent in the production of beadwork products.

6. The shadow wage in the economic models is based on the opportunity cost of the producer's labour. A typical female beadworker has very limited opportunities for obtaining income[3], but might be engaged in one or both of the following activities along with beadwork on an annual basis (and thus these activities would not be included to develop a shadow wage):

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[3] Agricultural work is not included as a possible opportunity for beadworkers, because most of the beadworkers are living in areas without arable farming due to climatic and soil conditions. Men, who are not beadworkers, might be engaged in herding activities, but women are not typically involved in herding.

- drought relief jobs: limited to 20 days per person per year at P2.50 for a 6 hour day (42 thebe per hour), if the LBRP rules are followed.
- beer-brewing for three to four months of the year (dependant on availability of Grewia fruit, which is affected by drought conditions, and **very** limited by local markets due to lack of readily available cash), earning a rate of P5.00 per day or 62 thebe per hour;

The shadow wage is based on the average (about P90 per annum) of several possible (albeit few) activities that a beadworker could do if there was no bead production. These activities are as follows:

- Hut building – 3 huts x P30 = P90 per year
- Fatcakes/bread-baking – about P100 per year
- Selling fresh Grewia fruits – 10 cups per day x .30 per cup x 20 days per year = P60 per year

For Model 3: Skinwork Enterprise

This model represents another typical, informal craft enterprise found in rural areas, especially in the western parts of Botswana. This model depicts a one-person operation, without any paid assistants, making and selling products from game or domestic animal skins. Products typically include: bags, dancing skirts and aprons, mats, *karosses* and hunting sets. Most skinworkers are male, but women are also found working in this area.

1. This model contains no provision for capital expenditure related to buildings, vehicles, or furniture. The typical skinworker works on the ground under a tree. The average skinworker cannot afford a vehicle and depends on buyers coming to their area or tries to get free lifts to the market.

2. Production equipment includes tools for preparing the raw materials and sewing the final products, such as: knife, small adze (for scraping the skins), rasp (for sharpening arrow and spear heads, etc.) and an awl (for sewing skin pieces together with sinew). The figure under the 'unit' column in the model, represents the share of time that a tool is used for skinwork, versus domestic use.

3. This model assumes that a skinworker would not have to borrow money and pay interest for any working capital. It is believed that the typical rural skinworker would not purchase more raw materials then could be paid for with the entrepreneur's own equity (or possibly borrowed money from relatives or friends with no interest).

4. Although skinworkers in Botswana make a variety of products, the entrepreneur depicted here makes bags, skirts, mats and hunting sets, using the 'traditional' methods and designs of the Bushmen.

   Based on data from the survey of skinworkers for this thesis and from Gantsi Craft (NGO marketing organisation in Ghanzi District) figures, this model assumes that one or two of each product type is sold during each buying session and there are seven buying sessions per year.

5. The only variable and operating overhead expenditures for skinwork are purchases of raw materials, wages and tool repair. These are based on average and modal figures taken from all the skinworkers surveyed.

   Approximately 32 percent of the skinworkers buy raw materials regularly, and this model depicts raw materials at market prices as if the materials were purchased. This model assumes the following about raw materials: Skin bags are made with either springbok, hartebeest or goat skins and at least two bags can be assembled from one animal skin; skin mats are typically made with duiker, springbok and/or goat skins and the equivalent of one animal skin would be needed for a small mat; one full duiker skin is needed for a hunting set bag; dancing skirts are most often made with one springbok skin, but two goat skins can also be used. The skins are bought either in a dried, or salted and dried state, and must be cleaned and brayed. In almost all cases sinew is still used for sewing rather than commercial nylon thread.

   Wages are based on average annual income figures for skinworkers in Botswana, and estimate that if skinworkers were paying themselves a wage, they would be earning the equivalent of .62 thebe per hour for their work. The value of the producer's time (or wages) is based on time needed for processing raw materials (mainly braying) and production. The following assumptions about time are made: 3 days (or 24 hours) are

needed for one bag, 6 days (or 48 hours) for one mat, 2 1/2 days (or 20 hours) for one hunting set, 2 days (or 16 hours) for one dancing skirt. Since one skin mat, and two each of the other products, are made and sold for each buying session, and there are seven buying sessions per annum, the total annual time is estimated to be 1176 hours of labour.

6. The shadow wage in the economic models is based on the opportunity cost of the producer's labour. A typical male skinworker has a few more opportunities for obtaining income than his female counterpart, but the choices are still quite limited. He might be engaged in one or more of the following activities along with skinwork on an annual basis (and thus these activities would not be included in the basis of a shadow wage):

- drought relief jobs: limited to 20 days per person per year at P2.50 for a 6 hour day (42 thebe per hour), assuming that the LBRP rules are followed;
- selling livestock: e.g. one or two cattle per year for P400– 600 per annum;
- farm labourer: very low wages, often paid in-kind with food;
- herding livestock: with the *mafiso* system, can earn a few beasts per year that could be sold.

The shadow wage for a skinworker is based on the possibility that he might take on a job as a labourer on a District Council road building project, if work as a skinworker did not exist. In this work he could earn P3.75 for a six-hour day for possibly 22 days per month for six months per year for a total of P495 per annum.

For Model 4: Carving Enterprise

In Botswana, a variety of small informal carving enterprises exist. In most cases, wood is the carving medium utilised, but a few entrepreneurs carve with beef bone and cow or game horn. Pre-1990, before the ban on commercial use of elephant products, several ivory carving studios also existed. In almost all cases in Botswana, carving is done by men. As for the woodcarvers, four 'centres' of woodcarving can be found in Botswana: the Shashe/Tonata area in the northeast, the Bushmen carvers in Central District, the Mbukushu carvers in Ngamiland, and to a lesser extent, the Bushmen and Herero carvers also in Ngamiland. Because the Shashe/Tonata area woodcarvers predominate, in terms of numbers of carvers and size of production, this model depicts a carving operation in that area. Carvers there work soft wood with knives and adzes,

and they turn harder wood on the lathe. Those with hand or bicycle powered lathes usually hire one paid assistant to turn the lathe. A vast variety of products are made as cited in Chapter 4.

1. This model contains no provision for capital expenditure related to buildings, vehicles, or furniture. The typical woodcarver works on the ground under a tree or very basic shelter. The average woodcarver cannot afford a vehicle and might use a donkey cart for transporting wood and finished products. In many instances buyers come to their area or they find free lifts to the market. Only about 10 percent of the carvers pay for transport.

2. Production equipment includes tools for preparing the wood (e.g. axe, saw, adze) and for carving the item (e.g. adze, lathe, knife, file, carving and burning tools). The lathe and carving and burning tools are typically made by the carver himself with found materials and represent no real expense. The figure under the 'unit' column in the model, represents the share of time that a tool is used for woodwork, versus domestic or agricultural purposes.

3. Same assumption as for Skinwork Model 3, Assumption 3.

4. Although woodcarvers in Botswana make a variety of products, the entrepreneur depicted here makes some of the more common products: carved animals and figurines from soft and hard wood, sugar pots and walking sticks turned on the lathe, mortar and pestle sets (mainly sold locally) and a few *kgotla* chairs. The typical producer sells about seven or eight items twice a month.

5. The only variable and operating overhead expenditures for carving are purchases of raw materials, wages and tool repair. These are based on mean figures taken from all the woodcarvers surveyed.

   About half of all carvers buy raw materials (other than the wood, which is gathered) on a regular basis, but almost all of the Shashe/Tonata carvers purchase materials due to the nature of their specific work. This model costs raw materials at market prices.

Wages are based on average annual income figures for woodcarvers in Botswana, and estimate that if woodcarvers were paying themselves a wage, they would be earning the equivalent of P1.08 per hour for their work. A typical carver works about six hours per day, six days per week, for nine months of the year. Often, the entrepreneur pays an assistant who works part-time and pulls the lathe and roughs out blocks of wood. On average, an assistant of this type is paid about a quarter of the value of products sold or about P4.00 per day for the days worked. This model assumes the assistant is working about 60 hours per month (720 hours per year) earning about 48 thebe per hour. The value of the producer's time (or wages) is based on time needed for collecting and preparing the wood and for carving and polishing. The following assumptions about time are made: two carved animals can be produced per day, two sugar pots per day and three walking sticks per day. Five days are needed to make a mortar and pestle set, while a kgotla chair takes three days. Therefore, all the products depicted in this model would take about 170 days of work per annum.

6. The shadow wage in the economic models is based on the opportunity cost of the producer's labour. A typical male woodcarver along the 'line-of-rail' might be engaged in one or more of the following activities along with woodwork on an annual basis (and thus these activities would not be included in the basis of a shadow wage):

- agricultural work: ploughing and herding livestock,
- selling livestock: e.g. a few cattle per year, selling between P300–600 per head;
- drought relief jobs: limited to 20 days per person per year at P2.50 for a 6 hour day (42 thebe per hour), assuming that the LBRP rules are kept;

The shadow wage for a woodcarver is based on the possibility that he might work as a casual/part-time builder doing odd jobs locally, if he could not be producing and selling handicrafts. As a casual builder, he might be able to find jobs for about nine months of the year, earning possibly P5.00 per day for 22 days per month for a total of P990 per annum.

For Model 5: Leather Enterprise

The leather enterprise, as depicted in this model, is one of the formal sector handicraft production units found mainly in urban settings or in rural, along the 'line-of-rail' areas (many are located in the small town of Pilane). An enterprise of this type is typically funded through the owner's equity and loans, in combination with FAP grants (nine out of eleven enterprises), and in only a very few cases supported with donor grants. Various items are produced with domestic and game leather, such as handbags, wallets, briefcases and skin mats, cushion covers and wall hangings. Although about three leather enterprises in Botswana have a tannery as part of the production unit, the tanning operation has been left out of this model.

1. This model contains provision for one building with space for an office, production area and retail selling. Building costs include labour, materials, transportation, administration and overheads. Buildings are simple, and include doors, windows, cement floors, cement walls, tin roof and no ceiling. Water systems and toilets are included in the building costs. Fencing includes a diamond-mesh wire fence with one single gate and one double gate.

2. The leather enterprise would require one 2-wheel drive vehicle.

3. Furniture and fixtures covers very basic office furniture (desks, chairs, filing cabinet), production tables, curtains and shelving. Office equipment covers the necessary basic office equipment to run a small, but professional operation (e.g. computer, printer, facsimile machine, answering machine).

4. Production equipment includes machines such as splitters, pattern cutters and sewing machines, plus hand tools.

5. A variety of items are produced for sale including handbags, sandals, clutch bags, belts, wallets, passport covers and briefcases. In less quantity, skin mats and fur cushions are made.

6. Variable and operating overhead expenditures, including wages, are based on average figures from the four most typical leather enterprises in Botswana.

7. All workers are full-time. Salaries and wages cover one general manager and one sales manager. Fourteen skilled workers are employed including: five machinists, four folders, two cutters, two assemblers and one sales person. Five unskilled workers are employed including two production trainees, one driver/production trainee, one cleaner/cutter and one night guard.

For Model 6: Weaving Enterprise

A weaving enterprise, as depicted in this model, is one of the formal sector handicraft production units found mostly in urban areas in Botswana. This model represents a production unit that employs staff on a full and part-time basis to produce woven items from wool, such as tapestries and rugs. About half the weaving units in Botswana are initially supported with donor grants, while the other half are financed through the owner's equity alone, or owner's equity with FAP grants.

1. This model contains provision for three separate buildings to include office, production workshop and retail shop/exhibition space. Building costs include labour, materials, transportation, administration and overheads. Buildings are simple, and include doors, windows, cement floors, cement walls, tin roof and no ceiling. Cost of water system includes digging ditch, laying pipe, cost of pipe, fittings, water meter and tap. Latrines represent a 'better than average' model. Fencing includes a diamond-mesh wire fence with one single gate and one double gate.

2. The weaving enterprise would only require a 2-wheel drive vehicle.

3. Same assumption as in the Leather Enterprise Model (Model 5, Assumption 3).

4. Production equipment includes looms and weaving frames for 15 weavers to be working at any given time.

5. Woven tapestries are the main production items for sale. Other woven items include rugs, tablecloths/mats/runners and bedspreads. Miscellaneous other goods include knitted goods, T-shirts and posters.

6. Variable and operating overhead expenditures, including wages, are based on average figures from the three most typical weaving enterprises in Botswana.

7. Salaries and wages cover one full-time manager, 15 full-time weavers, one full-time dyer/finisher/miscellaneous technical worker, one full-time night guard and one half-time cleaner/messenger/tea server.

For Model 7: Textile Enterprise

This textile enterprise model represents one of the typical formal sector handicraft production units found mainly in rural, along the 'line-of-rail' settings. Twice as many textile units are initially funded through donor grants in comparison to those financed solely through the owner's equity. Enterprises of this type produce printed cloth and textile items, most often using the silkscreen process, but in some cases by printing with potatoes, handpainting and using flour resists. This model represents an enterprise that uses silkscreen printing to produce cloth that is then sewn into various clothing and decorative items.

1. This model contains provision for one building with three main rooms for office, production workshop and retail shop/exhibition space. Building costs include labour, materials, transportation, administration and overheads. Water system and toilets are included within the building. Fencing includes a diamond-mesh wire fence with one single gate and one double gate.

2. The textile enterprise requires a 2-wheel drive vehicle.

3. Furniture and fixtures covers basic office furniture for one general manager and one sales manager (desks, chairs, filing cabinet), curtains and shelving. Office equipment covers the necessary basic office equipment to run a small, but professional operation (e.g. computer, printer, facsimile machine, answering machine).

4. Production equipment includes eight sewing machines and silkscreen equipment and accessories for eight sewers and four printers to be working at any given time.

5. The main production items for sale include: tablecloths and serviettes, wall hangings, calendars, T-shirts and various clothing items. Printed cloth is also produced for sale in small amounts.

6. Variable and operating overhead expenditures, including wages, are based on average figures from the two most typical textile enterprises in Botswana.

7. All workers are full-time. Salaries and wages cover one general manager, one sales manager, 15 skilled workers (eight sewers, four printers, one designer, one pattern cutter, one sales person) and five unskilled workers (two ironers, one cleaner/cutter, one washer, one full-time night guard).

For Model 8: Pottery Enterprise

This pottery enterprise model represents one of the typical formal sector handicraft production units found equally in rural and urban areas. About an equal number of pottery units are funded through donor grants as those financed through the owner's equity in combination with a FAP grant. The majority of pottery pieces made in Botswana are produced by using a pottery wheel (either kick or electric). However, most units also create some handbuilt pieces and one unit specialises in pieces formed with moulds.

1. This model contains no provision for capital expenditure related to buildings because the typical pottery enterprise rents space rather than owns their own workshop.

2. This production unit does not own a vehicle. The pottery enterprise transports their pieces to the market and purchases raw materials by using public transport, by paying for private transport, or by shipping. Many products are also sold straight from the workshop.

3. Furniture and fixtures are negligible. Some items are borrowed or come with the rental of the building. The unit cannot afford proper office equipment and does bookkeeping with a hand calculator, rather than a computer.

4. Production equipment includes six pottery wheels, two kilns and various miscellaneous accessories such as a scale, containers to mix clay and hand tools.

5. Dinnerware such as cups, mugs, bowls, tea service sets, wine goblets, candlesticks and ashtrays are the main production items. Various decorative items are also made, mainly handbuilt, such as animal figurines and traditional pots.

6. Variable and operating overhead expenditures, including wages, are based on average figures from the four most typical pottery enterprises in Botswana.

7. There are nine employees and all are full-time. Salaries and wages cover one general manager/skilled potter, one bookkeeper/skilled potter, three skilled potters, one sales person and three unskilled workers (two potter trainees and one cleaner/potter trainee).

For Model 9: Jewellery Enterprise

This jewellery enterprise model represents one of the typical formal sector jewellery production units found most often in urban areas, and to a lesser extent in rural areas sited along the 'line-of-rail'. About 75 percent of the jewellery units are financed through the owner's equity alone or in combination with a FAP grant. The remainder receive support through other types of government grants or from international donors. Jewellery is typically fashioned from sterling silver, copper, brass, cow bone, semiprecious gemstones, ostrich eggshells and calabash pieces.

1. This model contains no provision for capital expenditure related to buildings because a typical jewellery enterprise rents space rather than owning property.

2. The production unit in this model does not own a vehicle. The jewellery enterprise transports their pieces to the market and purchases raw materials by using public transport, by paying for private transport, or by shipping. Many products are also sold straight from the workshop.

3. Furniture and fixtures consists of a few work benches, tables, chairs and shelves. Office equipment covers hand calculators and typewriter, rather than a computer.

4. Production equipment includes some electrical tools and other basic hand tools.

5. This model depicts different types of jewellery manufacturers, as expenses and sales are quite similar. This unit could be producing jewellery from ostrich eggshell and calabash pieces, bone and semiprecious stones, or clay. It does not represent an enterprise using mainly sterling silver.

6. Variable and operating overhead expenditures, including wages, are based on average figures from the three typical jewellery enterprises in Botswana.

7. In this unit, six full-time producers are employed. All produce jewellery, but one also acts as the manager and keeps the books. Another producer acts as the main sales person. All employees help with cleaning.

For Model 10: Miscellaneous Crafts Enterprise

This model represents the formal craft production units that produce items from raw materials, such as gourds, corn husks, or cow horn. These production units fall under the formal sector though they are typically quite small. Most of them are attached to a larger development project as one of several income-generating projects. As they are all losing money, they tend to be 'bailed out' yearly by the larger organisation that supports them. All of the units are found in rural areas along the 'line-of-rail'.

1. This model contains no provision for capital expenditure related to buildings because a typical enterprise uses space for free from their parent organisation.

2. This production unit does not own a vehicle. The enterprise transports their pieces to the market and purchases raw materials by using public transport, by paying for private transport, by obtaining free lifts, or by shipping. Many products are also sold straight from the workshop.

3. Only a few working tables and chairs are needed for this unit to function. The unit cannot afford proper office equipment and does bookkeeping with a hand calculator, rather than a computer.

4. Production equipment includes only hand tools and a few containers for dyeing.

5. This particular model represents a unit that etches gourds for decorative pieces and containers, and fashions dyed cornhusks into human and animal figures.

6. All variable and operating overhead expenditures are based on mean figures from two of the most typical units in Botswana.

7. There are three employees and all work full-time. All workers produce crafts, but the head worker also acts as manager of the unit and keeps the books.

SPECIFIC ASSUMPTIONS FOR INDIVIDUAL NON-CRAFT MODELS

This next section describes the specific assumptions for ten enterprise models representing non-craft activities. A thorough description of the non-craft enterprises modelled here can be found in Appendix 7.2

For Model 11: Beer-brewing Enterprise

This model represents one of the typical, informal manufacturing enterprises found in rural Botswana, that is, a one-person operation making and selling beer, without any paid assistants. This model depicts a woman who makes *kgadi* beer from *moretlwa* fruit (Grewia sp.). Information to develop this model was obtained from the following sources: individual interviews with eight beer-brewers (3 in Mabutsane, 2 in Etsha, and 1 each in Chobe, Groote Laagte and Serowe) during the thesis survey, and various publications and reports, including, Lewycky (1977:219), Jules-Rosette (1985:97–98), Dorloechter (1989:13–14), Kolhoff and Polet (1990:82–84) and Bishop and Scoones (1994:25, 28, 44–45).

1. This model contains only a very small provision for capital expenditure related to buildings and furniture. A small shelter is constructed, primarily for beer selling activities next to the household compound. This shelter is made from three bundles of thatching grass at P2 per bundle and six wooden poles at P2 each, for a total of P18. Furniture for clients consists of three very basic wooden benches at P10 each.

No water system, latrines, or fences are built especially for this activity, nor are any vehicles or office equipment required.

2. Production equipment is included for processing the raw materials, and for selling the final product. These items include 25 litre plastic jerry cans (one is used for brewing, while the other is used for storage and serving), long-handled wooded spoons for stirring and enamel cups for serving the brew.

3. Same assumption as for Skinwork Model 3, Assumption 3.

4. This model represents a beer-brewer who brews, then sells one 25-litre container full of beer about every 2.5 days. While one container is being sold, another is full of fermenting beer. Approximately five 250ml cups of beer are sold every hour, during an average eight-hour day over 22 days per month for eight months out of the year. Eight months of selling is estimated based on the idea that the other four months would be occupied by intense agricultural work and/or the fruit would not be available.[4] Each 250ml cup of beer is sold for 15 thebe. Sales are therefore calculated, as follows: 5 cups per hour x 8 hours = 40 cups per day, x 22 days per month x 8 months = 7040 cups per year, x 15 thebe = P1,056.

5. The variable and overhead expenditures include purchases of raw materials (sugar and fruit), the brewer's wages, and shelter and equipment repair. Sugar purchases are based on the assumption that one 2.5kg sack of sugar is needed for every 25l container of beer and about 70 25l containers of beer are made per annum. Not all beermakers buy the Grewia fruit, but this raw material has been priced at market prices as if the materials were purchased. This model presumes that, unlike sugar, new Grewia fruits are not needed for every new batch of beer. Rather, about a one litre container full of berries

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[4] Eight months may be in fact an overestimate of the typical situation. Some reports mention that Grewia is only readily available for three to four months of the year. Intense agriculture work when women are very busy typically takes place in December and January for ploughing, and in May and June for harvesting and threshing, but this will vary according to drought conditions and the state of the harvest. One study reports one 200 litre drum being sold every other month for a period of about six months. Some studies describe beer selling taking place for only a day or so at month's end when people have received their pay, drought relief wages, or remittances. Other studies, and from personal observations, show beer sales taking place only during or after events when people have cash, such as on craft-buying days (CSO 1976:48–49).

are needed after every 150 litres of brew. If approximately 1750 litres are produced each year then about 12 one-litre containers of fruit is needed and each litre container costs, on average, P1.50.

Wage calculations do not include the time for collecting fruits based on the assumption that the fruit is purchased. Beer preparation/brewing time overlaps with selling time based on the assumption that except for the first batch of each major 'session', brewing and selling can take place simultaneously. Wages are based on the assumption that the brewer makes and sells beer about eight months per year and 22 days per month for a total of 176 days or about 1400 hours per year. Based on this time frame and the possibility of selling five cups per hour on average, the brewer could earn roughly 50 thebe per hour for her work, or P700 per annum.

6. The shadow wage in the economic models is based on the opportunity cost of the producer's labour, that is wages or income earned from other work that the individual can probably do if they were occupying themselves with the next best alternative work after brewing.

A female brewer could be typically engaged in the following activities along with brewing on an annual basis (and thus these activities would not be included to develop a shadow wage):

- basketmaking or beadwork, earning income as described in Models 1 and 2;
- agricultural work for the equivalent of about three months of labour at a rate of P6.00 per day or 75 thebe per hour[5];
- drought relief jobs: limited to 20 days per person per year at P2.50 for a 6 hour day (42 thebe per hour), assuming that the Labour Base Relief Programme rules are followed.

[5] As reported in the Farm Management Survey of 1988. The mean gross margins are based on an aggregate crop income per person day for two survey sites in Ngamiland District. Total incomes of all surveyed crops (N=10) were estimated (outputs x local prices) and related to estimates of labour inputs (family and hired) derived from focussed assessments at each site (as cited in Bishop and Scoones 1994:44).

Therefore, the shadow wage is based on an activity that a brewer might do if there was no brewing. Just as in the basketmaking model, this activity is the collection and sale of thatching grass and/or reeds for house and fence building, and the shadow wage is calculated to be P180 per annum.

For Model 12: Grass and Reed Collection/Sale Enterprise

The collection of thatching grass and reeds for house and fence building is undertaken almost exclusively by women for their own house building and repairs. In many cases, surplus bundles are sold, and, in some cases, women collect purposely to fill local orders. Nevertheless, grass and reed selling is considered a very marginal cash income-generating activity by most reports.[6] Information to develop this model was drawn from the following sources: Dorloechter (1989:14&55), Kolhoff and Polet (1990:90), Bishop and Scoones (1994:28&31).

1. No fixed capital items are required for the collection and sale of grass or reeds.

2. One sickle for cutting the grass and reeds is the only item of production equipment needed. This item is only used 80 percent of the time in the collection of these building materials. During the remaining 20 percent, the sickle might be used in the collection of palm leaves or other veld products, or in agricultural work.

3. This model assumes that a grass/reed collector would not have to borrow money formally and pay interest for any working capital.

4. The sales calculation in this model is based on the following assumptions:

   - One woman will spend about one month (24 days) collecting grass and reeds per year. This short time occurs mainly because of the seasonal availability of the materials. Other factors include: limited need, limited market for surplus, transport difficulties, labour tied up in agricultural work.
   - Approximately five bundles can be collected per day (this number can vary between two to ten bundles per day depending on rain and flood conditions). Five bundles per day equals 120 bundles per season.

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[6] Unlike other countries such as Namibia, Botswana does not seem to have an organisational structure which buys up thatching grass for commercial companies undertaking the construction of 'modern' thatched houses, lodges, etc.

- Each bundle can sell for P2.00.
- Although the collector usually keeps at least one-third of the bundles for her own use, these 'in-kind' bundles are included in this income section equivalent to the market price.

5. The variable and overhead expenditures include transport costs, the collector's wages and tool repair. This model presumes that the entrepreneur must collect the grass or reeds far enough from her home and point of sale that walking the distance with one bundle at a time carried on her head is not practical. In this case, a sledge (i.e. a wooden sleigh drawn by oxen, or in fewer instances by donkeys, which is the main form of transport in the heavy sands of the Kalahari), is hired by the women. Approximately 17 bundles can fit on one sledge load. A total of 120 bundles would need about seven trips, and each trip costs P25.

   Wage calculations are based on the assumption that the collector would pay herself with any net profit from the sale of bundles, plus the in-kind 'wage' for the bundles that she keeps for herself. By working about 192 hours per year, the wage for the collector is equivalent to 33 thebe per hour, or about P64.00 per annum.

6. In this model, the collector's work is considered unskilled labour because it takes no real skill to cut and sell grass or reeds. The shadow wage in the economic models is assumed to be 50 percent of the market price, because it is assumed if the entrepreneur is undertaking grass/reed cutting they are not skilled for any other activity that would provide a better return. On the other hand, it is also assumed that the person would not be completely idle or 'unemployed', so the shadow wage is not placed at zero.

For Model 13: Hut Building Enterprise

Earning money through the service of building is undertaken by a few skilled people in any community. Building covers the specific areas of hut building, fencing around compounds and latrine construction. This model concerns hut building, and equally represents the work of a man who would be responsible for wall construction or a woman who would thatch the roof. Building of huts in rural areas is usually restricted to a two to three month period, from about August to October, for two reasons: 1) this is the time that many housing materials (e.g. grass

and reeds) are seasonally available, and 2) labour is not conflicting with agricultural work. Generally, rural construction is considered as an income-generating activity only for the few very skilled people, because the typical household undertakes their own construction. Information to develop this model was drawn from the following sources: CSO (1976:67), Kolhoff and Polet (1990:95) and interviews during the thesis research with three female builders and two male builders.

1. No fixed capital items are required for the rural building trade.

2. For female thatchers, a sickle and a knife are the required production equipment. For male builders constructing walls with mud bricks, a trowel and knife would be used. The sickle or trowel would be expected to be used solely for building, while the knife would be used 50 percent of the time for this work.

3. Same assumption as for Model 12, Assumption 3.

4. The 'sales' calculation in this model is based on the service provided by the builder. The builder or thatcher would receive P30 for the work on one average-sized hut. Each hut would take roughly ten days to complete, therefore two huts could be worked on per month. In the three-month building 'season', the builder may work on six huts. These calculations assume that there is a reasonably good market for the builder.

5. There are no variable expenditures because all raw materials (e.g. thatching grass or mud bricks) would be supplied by the hut owner who requested the building service.

6. Overhead expenditures only consist of the builder's wages to her/himself and tool repair. The wage of P174 is based on the average annual wage of 60 rural builders in Chobe and Ngamiland Districts.

7. In this model, the builder's work is considered to be skilled labour. The shadow wage in the economic models is assumed to be 90 percent of the market price, because it is assumed if the entrepreneur is not doing building work, they could be doing other casual unskilled work, such as grass/reed collection for a woman, and digging or tree cutting for a man.

For Model 14: Veld Product (Grapple) Collection Enterprise

As discussed in Chapter 9, a variety of veld products are gathered across Botswana. Reeds and thatching grass, as important products gathered by many for their own use, have been handled separately in Model 12. Other veld products cover the important areas of food, firewood, craft materials and traditional medicines. While any of these could be chosen to represent veld products, the collection of grapple (Harpagophytum procumbens) has been chosen due to the more 'commercial' organisation of its collection and sale during the 1980s. Grapple is a tuber root used traditionally for various stomach disorders, and internationally as an arthritis and rheumatism medicine. Besides some private individual traders, two NGOs buy the grapple roots from the diggers on a relatively regular basis. Between 75 and 81 percent of grapple diggers are women (depending on the village), with little or no education. Most come from poorer classes, with few other income-generating opportunities available to them (Kgathi 1988:120).

Information to develop this model was extracted from two sources: Kgathi (1988) and Taylor and Moss (1983). Prices quoted in these reports from 1981/82 and 1983/94 have been inflated for use in this model to 1990/91 prices at a rate of 10.85 percent per annum.

1. No fixed capital items are required by grapple diggers.

2. A spade is required to dig the grapple tubers, and a knife is used to cut the tubers into small slices ready for sale. This model assumes that the spade is needed solely for grapple digging, while the knife is used throughout the grapple season (April to October). Therefore this production equipment is costed at 100 percent and 70 percent, respectively, of their market price.

3. Same assumption as for Model 12, Assumption 3.

4. Sales figures are based on purchasing records from Kgalagadi District, and the estimate that diggers can collect about 13 plants per day. In 1983/84, 26,620kg worth of grapple was bought. With an estimated 300 diggers, each digger would be selling about 89kg each per season. As 1983/84 was a peak year, the amount per person per season for the model is 80kg. The kilogram per selling price for 1983/84 has been inflated to the 1990/91 price of P3.50 per kilogram.

5. There are no variable expenditures for a grapple digger.

6. Overhead operating expenditures include the digger's wages to her/himself and tool repair. The wage of P270 is based on the assumption that one grapple digger works for about five hours per day for 22 days per month during the seven-month harvesting season, or a total of 154 half-days. Each digger can probably pay him/herself a wage of P1.75 per day for a five-hour day, or the equivalent of 35 thebe per hour.

7. The grapple diggers' work is considered unskilled labour, as it takes no particular skill to dig grapple, once one knows how to recognise the plant. The shadow wage in the economic models is calculated at 50 percent of the market price, because it is assumed if the entrepreneur is not doing grapple digging, they can probably do other casual unskilled work. However, due to their lack of skills and typical remote location, few opportunities would be available to them. Even the task of grass/reed collection would not be an available income-earning opportunity because these materials are not located in the same areas as grapple.

8. The dynamic models assume that full production only begins in the third year. During the second year production is at 75 percent of full production, while the first year only represents 50 percent of full production. This phased income is assumed, not because the grapple digger needs time to find a market, as the NGO market exists. Rather the NGOs need time to establish a solid market before they can buy consistent amounts from the diggers, and full production can be reached. Yearly variations in production due to climatic conditions have not been factored into this basic model.

For Model 15: Hunting Enterprise

This model draws heavily from Barnes (1989a, 1989b and 1995). Other sources used to produce this model include: Tanaka (1980:66–68), Silberbauer (1981:204–205), TIPA (1987:3,8&9), and EC (1985:40–48), plus several of the thesis interviews with skinworkers.

This model depicts a hunting (or cropping) project, which is sponsored in part by donors. It is small-scale, but operates as a commercial project rather than subsistence. Ten members of one community are represented in the project. The model describes a situation in which the users

(the community) have control over the wildlife resource in the area of communal lands designated for their use (in this case, 360,000 hectares in Ghanzi District). This model assumes that while hunting might be best undertaken by individual small operators, certain other functions, including product processing and marketing are more amenable to group formation. To further the prospect of success, the project is managed by a reasonably qualified manager, with the responsibilities of planning, coordinating and supervising, along with handling much of the record keeping, transport and marketing.

This group project has been allocated non-resident (trophy) and citizen hunting quotas by the Department of Wildlife and National Parks. The trophy quotas are sold to a professional safari company. The project uses the citizen quotas through small-scale hunting operations, and then produces medium quality *biltong* (dried and salted meat) for sale within the district and to larger towns, and sells dried and salted skins and trophy items to small-scale tanneries and trophy dealers.

Because this project is community-based and located in a remote area, it is assumed that the participants would not have their own equity, nor would the project be particularly attractive to a private investor. Therefore, the project has been 75 percent donor-financed, with the remainder of the capital requirements covered by a commercial loan. The static financial model includes interest and amortisation payments for the loan at 10 percent interest. Loans were amortised over the life of the asset, but for not more than 20 years.

All prices, taken from the various sources, have been inflated to 1990 levels at a rate of 10.85 percent, to enable comparison with the other enterprise models.

1. This model contains provision for capital expenditure for one storeroom, which is 60 square metres and priced at P475/m^2. A water system is assumed to exist near the project base, and only drums are needed for carrying water to the working area. Latrines and fencing are not built especially for this activity. Transport is supplied with one 4WD vehicle, two horses and five donkeys.

2. Basic operation equipment includes tools for the vehicle, camping equipment, five rifles, and saddles and pack gear for the horses and donkeys. Production equipment needed for

processing the raw materials includes equipment to butcher the animals, prepare the *biltong*, and dry the skins.

3. This model assumes that the group would have to borrow money formally for the working capital. Working capital is calculated as 30 percent of variable and operating overhead expenditures, based on the assumption that borrowed working capital is needed for only a third of the year. The rest of the time working capital is generated through profits. Interest on the borrowed working capital is calculated at 15 percent.

4. Income is derived from the sale of non-resident (trophy) quotas to a commercial hunting safari operator, and from the production of medium quality *biltong* and sale within the district and to larger towns. In addition, dried and salted raw skins are sold to local small-scale tanneries and one large commercial tannery, while trophy items (e.g. cape and horns) are sold to trophy dealers. All financial prices are based on market prices at the 1990 level. The economic prices, which are tradable items subject to a foreign exchange premium, are 10 percent higher.

5. The domestic variable expenditures include hunting licence fees and veterinary costs for the horses and donkeys. It is assumed that the project had to pay the standard citizen hunting licence fee for the quota of 200 large- and medium-sized animals, but they were exempt from paying the fee for the 100 small animals quota.

   Tradable variable expenditures include the following: 480 rounds of ammunition at an assumed success rate of 1.6 rounds per animal killed, fodder and supplements for the horses and donkeys, salt for drying the skins and various spices for the *biltong*. Transportation costs cover fuel and miscellaneous costs for travelling within the district for hunting and distributing *biltong* and hides, and outside the district for marketing purposes. A small amount of money is included for advertising and packaging.

6. Salaries and wages are based on one manager receiving P950 per month, and the nine hunters/labourers earning the equivalent of the lowest minimum wage at 1990 full-time rates.

7. Land rental is based on the token fee of four thebe per hectare for 360,000 hectares.

For Model 16: Sewing Enterprise

This model depicts a typical non-craft, formal enterprise that would be found in an urban area or a rural area along the 'line-of-rail'. In Botswana, sewing can involve dressmaking, tailoring, school uniform and industrial uniform production, or curtains and drapes. This model represents a typical dressmaking or school uniform small-scale enterprise that operates from a government-subsidised 'factory shell'.

Information to develop this model was extracted from a few different sources, as follows: Hunter (1978), Morapedi and Jones-Dube (1988), Gorton (1989:57–65) and Kolhoff and Polet (1990:93), plus eight individual producers' interviews for the thesis research and a few of the textile and leather production unit interviews. All prices, taken from the various sources, have been inflated to 1990 levels at a rate of 10.85 percent, to enable comparison with the other enterprise models.

1. This model contains no provision for fixed capital expenditure because the enterprise operates from a government-subsidised 'factory shell', which supplies production space, access to toilets, etc.

2. Regarding movable capital, this model assumes that the enterprise currently cannot afford a vehicle for marketing. Because the project is in an urban area and/or near the 'line-of-rail', commercial transport is, in any case, readily available.

   Very basic furniture has been bought, such as a desk, chairs and a filing cabinet. Being located on a government garment estate, the enterprise would have access to shared office equipment that they might need, such as a photocopying and facsimile machines, therefore they would not need to purchase these items. Production equipment includes four 'professional' sewing machines and two used machines, plus two working tables, and miscellaneous accessories, such as scissors, irons, ironing boards.

3. Same assumption as for Model 15, Assumption 3.

4. Income is derived solely from the sale of finished sewn goods, based on the assumption that each sewer could finish at least one to two items per week.

5. Variable expenditures include basic expenses to run a small production unit, raw materials and marketing expenses. These figures have been derived from textile production units interviewed for this thesis, and reduced as appropriate. Cloth, being the main raw material, has been purchased from a government-subsidised bulk supply unit.

6. Salaries and wages are based on one owner/manager receiving a token income of P360 per month, and the six workers earning P230 each per month, which is above minimum wage. The shadow wage for the economic costs assumes market prices for the manager, and 90 percent of the wage cost for the skilled sewers.

   Other operating overheads cover some very basic administration expenses. It is assumed that the owner keeps the books with guidance from the garment estate advisors, and the estate provides the annual audit.

7. The workshop rental cost is based on government-subsidised rates for manufacturing outlets.

For Model 17: Small Bakery

This model depicts a typical small-scale non-craft, quasi-formal enterprise that could be found in a village of about 2,000 people or more, or in a small town. In Botswana, small-scale bakeries usually produce loaves of bread and buns, in an 'appropriate technology' oven designed and probably built at the Rural Industries Innovations Centre (RIIC) in Kanye. The typical enterprise has three people engaged in baking (Groth *et al* 1992:62).

This model represents a bakery of this type, as opposed to an individual baker who might produce buns and fatcakes over an open fire. Information to develop this model was extracted from the following sources: EC(1985:126–128), IAE (1985:19), TIPA (1987:3), Kolhoff and Polet (1990:94) and Groth *et al* (1992, Section III:42–63), plus two individual producers' interviews for the thesis research. All prices, taken from the various sources, have been inflated (and in the case of Groth *et al* 1992, deflated) to 1990 levels at a rate of 10.85 percent, to enable comparison with the other enterprise models.

1. This model contains provision for capital expenditure for one building, which is 60 square metres and priced at P475/m^2, and used for work space and storage. A water system is assumed to exist near the enterprise. Latrines and fencing are not built especially for this activity.

2. Regarding movable capital, this model assumes that the enterprise does not need a vehicle for marketing. Purchasing raw materials can be done with public transport, or private lifts. Small to medium-sized bakeries are generally not sufficiently developed to justify the cost of a motor vehicle (Groth *et al* 1992:57). Basic furniture and fixtures include working tables, storage shelves and cupboards, and a few chairs. No office equipment is needed. Production equipment includes two RIIC-designed rim ovens, bowls, loaf tins, trays and assorted baking implements.

3. This model assumes that the enterprise would start-up with a FAP grant, and the balance needed would be financed through owners' equity. Therefore, the business would have no need to borrow money formally, nor pay interest for any working capital.

4. Income comes largely from the sale of bread loaves. Smaller quantities of inexpensive buns are also sold.

5. Variable expenditures include baking raw materials, firewood, packaging and transport. These figures come from the 1992 Groth study, in which 33 bakeries were surveyed.

6. Salaries and wages are based on one owner/manager receiving an income of P500 per month, and the two workers earning P140 each per month, which is below the 1990 'manufacturing' minimum wage, but above the minimum wage level of a night guard.

For Model 18: Cement Blockmaking Enterprise

This model represents a typical small-scale, labour-intensive enterprise that produces cement blocks for the local building trade. Information to develop this model was extracted from the following sources: TIPA (1987:2–3), Gorton (1989:2–7), DIA (1992b) and a financial statement from one Botswana small-scale brick moulding enterprise. All prices, taken from the various

sources, have been inflated or deflated to 1990 levels at a rate of 10.85 percent, to enable comparison with the other enterprise models.

1. This model contains provision for capital expenditure for one building to be used for storage. It is 12 square metres and priced at P475/m^2. A water system is needed, and the price in the model includes the cost of drilling a borehole, tank, pipes and pump. Fencing costs include a diamond-mesh wire fence with one single gate and one double gate.

2. A 2WD pick-up truck is used to transport finished blocks to the customer. Production equipment includes all the necessary items to produce 500 blocks per day using labour intensive methods.

3. Same assumption as for Model 15, Assumption 3.

4. Income is derived solely from the sale of finished cement blocks.

5. Variable expenditures include basic expenses to run a small production unit, raw materials, and marketing expenses. Raw materials include cement at P11.70 per 25kg bag, with transport included in the price. Sand is free, but the entrepreneur must pay for extra labour to dig the sand and transport costs for delivering to the production location.

6. Salaries and wages are based on one owner/manager taking an income of P500 per month. Four workers, who are the blockmakers, are considered to be technically skilled and earn P140 each per month, which is above the basic minimum wage, but below the manufacturing minimum wage. Five workers mix the cement, and are considered to be unskilled, with each earning P120 per month.

   Other operating overheads cover some very basic administration expenses. It is assumed that the owner keeps the books.

For Model 19: Welding Enterprise

This model represents one type of metalworking enterprise found in Botswana. Information to develop this model was extracted from the following sources: a financial statement from one Botswana small-scale welding enterprise and some unpublished FAP records from Ghanzi, Kgalagadi and Southern Districts. All prices, taken from the various sources, have been deflated to 1990 levels at a rate of 89.15 percent per annum, to enable comparison with the other enterprise models.

1. This model contains no provision for fixed capital expenditure because the enterprise operates from a government-subsidised 'factory shell', which supplies production space, access to toilets, etc.

2. A used 2WD pick-up truck has been bought to transport finished goods to customers. The production equipment for welding has been leased/hired, with the possibility of ownership after all payments have been made.

3. Same assumption as for Model 15, Assumption 3.

4. Income is derived solely from the welding service provided.

5. Variable expenditures include basic expenses to run a small service unit, raw materials, and marketing expenses.

6. Salaries and wages are included for one owner/manager taking an income of P2,000 per month, one skilled welder at P500/month, two welding helpers/ trainees at P160/month each and one security guard at P140/month. Other operating overheads cover some basic accounting and medical aid expenses.

7. The workshop rental cost is based on government-subsidised rates for manufacturing outlets.

For Model 20: Sorghum Milling Enterprise

This model represents one type of sorghum milling enterprise found in Botswana, that is, the type that charges a fee per kilogram for the service of milling individuals' sorghum, rather than a commercial and service mill, which actually buys, mills, and then resells grain along with the provision of a milling service. Information to develop this model was taken from two sources: Groth *et al* 1992 and some unpublished FAP records from Southern District. All prices have been deflated to 1990 levels at a rate of 89.15 percent per annum, to allow for comparison with other enterprise models.

1. This model contains provision for capital expenditure for one building, which is 60 square metres and priced at P475/m^2. A water system is assumed to exist near the enterprise. Latrines and fencing are not built especially for this activity.

2. A vehicle would not be needed for this type of service operation. Very basic furniture has been bought, such as a few tables and chairs.

   Production equipment includes all the necessary equipment to run a small service operation. It is assumed that the mill is in an area, which does not have access to an electrical power supply, therefore a Lister diesel engine is needed to supply the energy. The line item 'other' includes one-off transport of the equipment to the mill site, installation charges and workers' training in equipment use.

3. Same assumption as for Model 15, Assumption 3.

4. Income is derived solely from the milling service provided.

5. Variable expenditures include very basic expenses to run a small service unit, diesel to run the Lister engine, and transport costs related to the supply of the diesel.

6. Salaries and wages are included for one owner/manager taking an income of P500 per month and two unskilled workers at P160/month each.

SPECIFIC ASSUMPTIONS FOR CRAFT MARKETING ENTERPRISE MODEL

This next section provides the specific assumptions for a craft marketing enterprise model.

For Model M1: National Craft Marketing Enterprise

This model describes a parastatal craft marketing enterprise, which is based in Gaborone, but operates nationally by purchasing traditional and contemporary craft products from around the country, and wholesaling and retailing them from the Gaborone base. About 30 percent of the products are sold directly to the export market, while 65 percent are estimated to be 'exported' indirectly through sales to expatriate residents and tourists. The remaining five percent are assumed to be sold to Botswana citizens. The model assumes that in Gaborone the enterprise has one warehouse/office for wholesale and export operations, and one retail shop. There are also two buying depots/offices in two different rural locations, one catering for the north-western part of Botswana and one for Ghanzi and Kgalagadi Districts. Another buyer based out of the Gaborone office covers the eastern portion of Botswana. Being a parastatal, the main objective of the enterprise is to generate income to as many craft producers as possible, while maintaining the viability of the enterprise. The enterprise was initially supported with some donor grants for capital expenditures, and the General Manager's salary and expenses are covered through a volunteer organisation. This model is roughly based on a real situation that occurred in Botswana throughout most of the 1970s and 1980s, but no longer exists today.

1. This model contains provision for two buildings to be based in two rural locations. Each includes space for storage and a small office. Building costs include labour, materials, transportation, administration and overheads. Buildings are small (about 40 square metres) and simple, and include doors, windows, cement floors, cement walls, tin roof and no ceiling. Cost of water system includes digging ditch, laying pipe, cost of pipe, fittings, water meter and tap. Latrines represent a 'better than average' model. Fencing includes a diamond-mesh wire fence with one single gate and one double gate for an area about 25 x 25 metres. Premises in Gaborone are rented.

2. The marketing enterprise requires two 4-wheel drive vehicles for the buying operations, and one 2-wheel drive pick-up truck for the Gaborone operation. This vehicle must be shared by the buyer covering the eastern part of Botswana, which creates transport problems.

3. Furniture and fixtures cover very basic office furniture (desks, chairs, filing cabinets), shelving, packing tables, curtains, fans, electric heaters, scale, one refrigerator and one freezer. Office equipment covers the necessary basic office equipment to run a small, but professional operation (e.g. computers, printer, facsimile machine, answering machine, photocopier, adding machines, calculators, packing equipment, safe, cash register etc.). Camping equipment and two-way radios for the three buyers are also included.

4. Short-term interest on working capital is assumed at a rate of 15 percent per annum on an overdraft amounting to 30 percent of the variable and overhead costs. This is based on the assumption that the enterprise only needs to have an overdraft for about one-third of the year, while during the rest of the year expenses are covered from profits.

5. The enterprise sales income is derived from the local and export sales of all types of traditional and contemporary crafts purchased throughout Botswana. Clothing items included locally printed T-shirts, locally made machine-knitted jerseys, and safari-style clothing imported from South Africa and Zimbabwe. Coffee table books and tourist reference books are also sold. The model assumes the following average markups: 80 percent on craft items, 50 percent on clothes and 30 percent on books.

6. Variable and operating overhead expenditures are based on figures from existing craft marketing enterprises in Botswana as taken from the thesis marketing survey and enterprise financial statements, and other craft enterprise financial and economic models (Terry 1991b, Terry *et al* 1994).

7. Product development covers only very minimum expenses for developing some new products and ensuring quality of existing products.

8. Travel and transportation costs for buying trips include per kilometre transportation costs calculated at P1.15 per kilometre (averaging all road conditions), which covers cost of fuel and vehicle servicing. The model assumes that six purchasing trips will be made per year in each buying area, with an estimated total of 48,300km covered per year: within Ngamiland District = 4,800km; within Ghanzi and Kgalagadi Districts = 20,400km; Chobe District and eastern Botswana = 23,100km. Also included are per

diem expenses (i.e. three buyers travelling six times per year at an average of 14 days per trip = approximately 250 person days at P30/day) and miscellaneous expenses.

9. Purchased crafts come from the buying trips referred to above, and by crafts being ordered, and then posted or sent by train to the warehouse in Gaborone. Imported clothing items and books are also ordered, and posted or freighted by train.

   With this model enterprise, all crafts produced could be purchased exclusively from about 500 producers throughout Botswana. More realistically, this marketing enterprise would buy only some crafts produced from some producers. If this is the case, at least 2,000 producers could be reached by this one enterprise. This figure of 2,000 producers is used to calculate the Capital Cost/Informal Employment Opportunity Created figure.

10. Marketing costs cover only the bare minimum needed for an operation of this size. The model assumes that most marketing is done directly from the warehouse and retail shop, and that some marketing to other shops around Botswana is done during buying trips. A small amount is added for travel and transportation expenses for the few instances where special marketing trips are made.

11. Specific salaries and wages are indicated in the model for a staff of 14 people, including one General Manager supplied by an international volunteer or aid agency.

12. Rental covers the costs of renting a 236m^2 warehouse/office for P1,770 per month, and a 125m^2 retail shop at P3,000 per month in Gaborone.

FINANCIAL/ECONOMIC STATIC MODEL S-1: BASKETRY ENTERPRISE

TABLE 1A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	0	0	0	0	40	0	0	0
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**0**	**0**		**0**	**0**	**0**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	0	0	0	0	6	0	0	0
Office Equipment	0	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
Awl	1.00	1.00	1.00	1.10	6	0.23	0.17	0.18
Knife or Sickle	0.50	4.00	2.00	2.20	4	0.46	0.50	0.55
Hoe	0.05	15.00	0.75	0.83	4	0.17	0.19	0.21
Axe	0.25	15.00	3.75	4.13	4	0.86	0.94	1.03
CONTINGENCY @ 10%			0.38	0.41	4	0.09	0.09	0.10
Subtotal Tradable			7.88	8.66		1.81	1.89	2.07
SUBTOTAL MOVABLE CAPITAL			**7.88**	**8.66**		**1.81**	**1.89**	**2.07**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			0	0	0			
Overhead			0	0	0			
SUBTOTAL WORKING CAPITAL			**0**	**0**	**0**			
TOTAL			**7.88**	**8.66**	**0.00**	**1.81**	**1.89**	**2.07**

FINANCIAL/ECONOMIC STATIC MODEL S-1: BASKETRY ENTERPRISE

TABLE 1B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
CRAFTS				
Tradable Items				
Open/bowl shaped baskets	20	10.65	213.00	234.30
Closed/lidded baskets	3	34.17	102.51	112.76
Woven bangles	24	0.50	12.00	13.20
Subtotal Tradable			327.51	360.26
GROSS INCOME			**327.51**	**360.26**

TABLE 1C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			0	0
General Office Expenses			0	0
Printing/Stationary			0	0
Postage			0	0
Staff Training			0	0
Telephone			0	0
Utilities			0	0
Subtotal Domestic			0	0
Tradable Items				
RAW MATERIALS				
White palm	34	1.00	34.00	37.40
Dyed palm	34	1.50	51.00	56.10
Grass/vine core material	gathered		0.00	0.00
Razor blades	12	0.08	0.96	1.06
MARKETING COSTS				
Advertising/Promotion			0	0
Packaging			0	0
Travel/Transportation			0	0
Subtotal Tradable			85.96	94.56
TOTAL VARIABLE EXPENDITURE			**85.96**	**94.56**

TABLE 1D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	0	0	0	0
Skilled (Technically)	1	220.00	220.00	180.00
Unskilled	0	0	0	0
OTHER COSTS				
Accounting Fees			0	0
Administration			0	0
Auditors Remuneration			0	0
Insurance			0	0
Maintenance/Repairs			0.39	0.39
Trading Licenses			0	0
Subtotal Domestic			220.39	180.39
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**220.39**	**180.39**

FINANCIAL/ECONOMIC STATIC MODEL S-1: BASKETRY ENTERPRISE

TABLE 1E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	7.88
GROSS INCOME	327.51
VARIABLE COSTS	85.96
GROSS MARGIN	241.55
OVERHEAD COSTS	
Overhead Operating Costs	220.39
Loan Amortisation and Interest	0.00
Provisions for Capital Replacement (Depreciation)	1.89
Interest on Working Capital	0.00
Rental	0.00
TOTAL OVERHEAD COSTS	222.28
ANNUAL NET CASH INCOME	**19.27**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	244.71%

TABLE 1F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	0.00
Tradable Component	8.66
TOTAL ECONOMIC VALUE	**8.66**
ECONOMIC BENEFITS	
Gross Income	360.26
TOTAL ECONOMIC BENEFITS	**360.26**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	0.00
Shadow Skilled Citizen Wages	180.00
Other Citizen Wages	0.00
Other Domestic Economic Costs - Variable	0.00
Other Domestic Economic Costs - Operating Overhead	0.39
SUBTOTAL DOMESTIC COMPONENT	180.39
TRADABLE COMPONENT	
Raw Material Purchases	93.50
Other Tradable Economic Costs - Variable	0.00
Other Tradable Economic Costs - Operating Overhead	0.00
SUBTOTAL TRADABLE COMPONENT	93.50
TOTAL ECONOMIC COSTS	**273.89**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**86.37**
NET VALUE ADDED (After Deducting Depreciation)	**84.29**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	997.02%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	973.08%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	8.66

TABLE 1G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0		
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Notes: "x Year" Items represent the different expected life spans of individual depreciable assets from 4 to 40 years

(Continued...)

TABLE 1G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		1.00						1.00				
Phased Expenditure		1.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
Depreciation		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Residual Value		1.00	0.83	0.67	0.50	0.33	0.17	1.00	0.83	0.67	0.50	0.33
"4 YEAR" ITEMS	4											
Total Expenditure		6.88				6.88				6.88		
Phased Expenditure		6.88	0.00	0.00	0.00	6.88	0.00	0.00	0.00	6.88	0.00	0.00
Depreciation		1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72	1.72
Residual Value		6.88	5.16	3.44	1.72	6.88	5.16	3.44	1.72	6.88	5.16	3.44
NON-DEPRECIABLE ASSETS												
Total Working Capital		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phased Expenditure		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		7.88	0.00	0.00	0.00	6.88	0.00	1.00	0.00	6.88	0.00	0.00
Total Financial Value		7.88	0.00	0.00	0.00	6.88	0.00	1.00	0.00	6.88	0.00	0.00
Total Economic Value		8.66	0.00	0.00	0.00	7.56	0.00	1.10	0.00	7.56	0.00	0.00
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		7.88	5.99	4.10	2.22	7.21	5.32	4.44	2.55	7.54	5.66	3.77
Total Financial Value		7.88	5.99	4.10	2.22	7.21	5.32	4.44	2.55	7.54	5.66	3.77
Total Economic Value		8.66	6.59	4.51	2.44	7.93	5.86	4.88	2.81	8.30	6.22	4.15

Notes: "x Year" Items represent the different expected life spans of individual depreciable assets from 4 to 40 years

TABLE 1I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	7.88	0.00	0.00	0.00	6.88	0.00
Variable Expenditure	0.00	85.96	85.96	85.96	85.96	85.96
Overhead Expenditures	0.00	220.39	220.39	220.39	220.39	220.39
TOTAL EXPENDITURES	**7.88**	**306.35**	**306.35**	**306.35**	**313.23**	**306.35**
INCOME						
Gross Income	0.00	262.01	327.51	327.51	327.51	327.51
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	5.32
TOTAL INCOME	**0.00**	**262.01**	**327.51**	**327.51**	**327.51**	**332.83**
NET BENEFIT(-COST)	**-7.88**	**-44.35**	**21.16**	**21.16**	**14.28**	**26.48**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	16.96
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	19.60%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.01
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.53

TABLE 1J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	7.88	0.00	0.00	0.00	6.88	0.00	1.00	0.00	6.88	0.00	0.00
Variable Expenditure	0.00	85.96	85.96	85.96	85.96	85.96	85.96	85.96	85.96	85.96	85.96
Overhead Expenditures	0.00	220.39	220.39	220.39	220.39	220.39	220.39	220.39	220.39	220.39	220.39
TOTAL EXPENDITURES	**7.88**	**306.35**	**306.35**	**306.35**	**313.23**	**306.35**	**307.35**	**306.35**	**313.23**	**306.35**	**306.35**
INCOME											
Gross Income	0.00	262.01	327.51	327.51	327.51	327.51	327.51	327.51	327.51	327.51	327.51
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.77
TOTAL INCOME	**0.00**	**262.01**	**327.51**	**327.51**	**327.51**	**327.51**	**327.51**	**327.51**	**327.51**	**327.51**	**331.28**
NET BENEFIT(-COST)	**-7.88**	**-44.35**	**21.16**	**21.16**	**14.28**	**21.16**	**20.16**	**21.16**	**14.28**	**21.16**	**24.93**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	73.29
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	33.39%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.03
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	2.88

TABLE 1K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	8.66	0.00	0.00	0.00	7.56	0.00
Unskilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Skilled Citizen Wages	0.00	180.00	180.00	180.00	180.00	180.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Overhead	0.00	0.39	0.39	0.39	0.39	0.39
Raw Materials Costs	0.00	93.50	93.50	93.50	93.50	93.50
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Overhead	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**8.66**	**273.89**	**273.89**	**273.89**	**281.46**	**273.89**
ECONOMIC BENEFITS						
Gross Income	0.00	288.21	360.26	360.26	360.26	360.26
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	5.86
TOTAL BENEFITS	**0.00**	**288.21**	**360.26**	**360.26**	**360.26**	**366.12**
NET BENEFIT(-COST)	**-8.66**	**14.32**	**86.37**	**86.37**	**78.80**	**92.22**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	269.40
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	349%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.24
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	36.00

TABLE 1L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	8.66	0.00	0.00	0.00	7.56	0.00	1.10	0.00	7.56	0.00	0.00
Unskilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skilled Citizen Wages	0.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Overhead	0.00	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39	0.39
Raw Materials Costs	0.00	93.50	93.50	93.50	93.50	93.50	93.50	93.50	93.50	93.50	93.50
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Overhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**8.66**	**273.89**	**273.89**	**273.89**	**281.46**	**273.89**	**274.99**	**273.89**	**281.46**	**273.89**	**273.89**
ECONOMIC BENEFITS											
Gross Income	0.00	288.21	360.26	360.26	360.26	360.26	360.26	360.26	360.26	360.26	360.26
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.15
TOTAL BENEFITS	**0.00**	**288.21**	**360.26**	**360.26**	**360.26**	**360.26**	**360.26**	**360.26**	**360.26**	**360.26**	**364.41**
NET BENEFIT(-COST)	**-8.66**	**14.32**	**86.37**	**86.37**	**78.80**	**86.37**	**85.27**	**86.37**	**78.80**	**86.37**	**90.52**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	518.72
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	350%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.27
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	68.34

FINANCIAL/ECONOMIC STATIC MODEL S-2: BEADWORK ENTERPRISE

TABLE 2A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	0	0	0	0	40	0	0	0
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**0**	**0**		**0**	**0**	**0**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	0	0	0	0	6	0	0	0
Office Equipment	0	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
Short Awl	1.00	1.00	1.00	1.10	6	0.23	0.17	0.18
Long Awl	1.00	2.00	2.00	2.20	6	0.46	0.33	0.37
Sharpening Stone	1.00	10.00	10.00	11.00	6	2.30	1.67	1.83
Knife	0.25	5.00	1.25	1.38	4	0.29	0.31	0.34
Axe	0.25	5.00	1.25	1.38	4	0.29	0.31	0.34
CONTINGENCY @ 10%			1.55	1.71	4	0.36	0.39	0.43
Subtotal Tradable			17.05	18.76		3.91	3.18	3.50
SUBTOTAL MOVABLE CAPITAL			**17.05**	**18.76**		**3.91**	**3.18**	**3.50**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			0	0	0			
Overhead			0	0	0			
SUBTOTAL WORKING CAPITAL			**0**	**0**	**0**			
TOTAL			**17.05**	**18.76**	**0.00**	**3.91**	**3.18**	**3.50**

FINANCIAL/ECONOMIC STATIC MODEL S-2: BEADWORK ENTERPRISE

TABLE 2B: SALES AT FULL PRODUCTION

Item		Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
CRAFTS					
Tradable Items					
Ostrich egg beaded necklaces	3 strands	7	9.00	63.00	69.30
Ostrich egg beaded bracelets		7	7.00	49.00	53.90
Ostrich egg beaded belts		7	18.00	126.00	138.60
Skin bags decorated with ostrich eggshell or glass beads		7	10.00	70.00	77.00
Subtotal Tradable				308.00	338.80
GROSS INCOME				**308.00**	**338.80**

TABLE 2C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			0	0
General Office Expenses			0	0
Printing/Stationary			0	0
Postage			0	0
Staff Training			0	0
Telephone			0	0
Utilities			0	0
Subtotal Domestic			0	0
Tradable Items				
RAW MATERIALS				
Ostrich eggshell pieces (per 1kg sugar sack size)	1	5.00	5.00	5.50
Glass beads (500g sack)	1	10.00	10.00	11.00
Sinew (small bundle)	1	3.00	3.00	3.30
Misc. Plants/seeds/branches	gathered		0.00	0.00
MARKETING COSTS				
Advertising/Promotion			0	0
Packaging			0	0
Travel/Transportation			0	0
Subtotal Tradable			18.00	19.80
TOTAL VARIABLE EXPENDITURE			**18.00**	**19.80**

TABLE 2D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	0	0	0	0
Skilled (Technically)	1	268.80	268.80	90.00
Unskilled	0	0	0	0
OTHER COSTS				
Accounting Fees			0	0
Administration			0	0
Auditors Remuneration			0	0
Insurance			0	0
Maintenance/Repairs			0.85	0.85
Trading Licenses			0	0
Subtotal Domestic			269.65	90.85
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**269.65**	**90.85**

FINANCIAL/ECONOMIC STATIC MODEL S-2: BEADWORK ENTERPRISE

TABLE 2E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	17.05
GROSS INCOME	308.00
VARIABLE COSTS	18.00
GROSS MARGIN	290.00
OVERHEAD COSTS	
Overhead Operating Costs	269.65
Loan Amortisation and Interest	0.00
Provisions for Capital Replacement (Depreciation)	3.18
Interest on Working Capital	0.00
Rental	0.00
TOTAL OVERHEAD COSTS	272.83
ANNUAL NET CASH INCOME	**17.17**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	100.69%

TABLE 2F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	0.00
Tradable Component	18.76
TOTAL ECONOMIC VALUE	**18.76**
ECONOMIC BENEFITS	
Gross Income	338.80
TOTAL ECONOMIC BENEFITS	**338.80**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	0.00
Shadow Skilled Citizen Wages	90.00
Other Citizen Wages	0.00
Other Domestic Economic Costs - Variable	0.00
Other Domestic Economic Costs - Operating Overhead	0.85
SUBTOTAL DOMESTIC COMPONENT	90.85
TRADABLE COMPONENT	
Raw Material Purchases	19.80
Other Tradable Economic Costs - Variable	0.00
Other Tradable Economic Costs - Operating Overhead	0.00
SUBTOTAL TRADABLE COMPONENT	19.80
TOTAL ECONOMIC COSTS	**110.65**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**228.15**
NET VALUE ADDED (After Deducting Depreciation)	**224.65**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL INVESTMENT =	1216.46%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	1197.82%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	18.76

TABLE 2G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0		
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 2G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		13.00						13.00				
Phased Expenditure		13.00	0.00	0.00	0.00	0.00	0.00	13.00	0.00	0.00	0.00	0.00
Depreciation		2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17
Residual Value		13.00	10.83	8.67	6.50	4.33	2.17	13.00	10.83	8.67	6.50	4.33
"4 YEAR" ITEMS	4											
Total Expenditure		4.05				4.05				4.05		
Phased Expenditure		4.05	0.00	0.00	0.00	4.05	0.00	0.00	0.00	4.05	0.00	0.00
Depreciation		1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Residual Value		4.05	3.04	2.02	1.01	4.05	3.04	2.02	1.01	4.05	3.04	2.02
NON-DEPRECIABLE ASSETS												
Total Working Capital		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phased Expenditure		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		17.05	0.00	0.00	0.00	4.05	0.00	13.00	0.00	4.05	0.00	0.00
Total Financial Value		17.05	0.00	0.00	0.00	4.05	0.00	13.00	0.00	4.05	0.00	0.00
Total Economic Value		18.76	0.00	0.00	0.00	4.46	0.00	14.30	0.00	4.46	0.00	0.00
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		17.05	13.87	10.69	7.51	8.38	5.20	15.03	11.85	12.72	9.54	6.36
Total Financial Value		17.05	13.87	10.69	7.51	8.38	5.20	15.03	11.85	12.72	9.54	6.36
Total Economic Value		18.76	15.26	11.76	8.26	9.22	5.72	16.53	13.03	13.99	10.49	6.99

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

TABLE 2I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	17.05	0.00	0.00	0.00	4.05	0.00
Variable Expenditure	0.00	18.00	18.00	18.00	18.00	18.00
Overhead Expenditures	0.00	269.65	269.65	269.65	269.65	269.65
TOTAL EXPENDITURES	**17.05**	**287.65**	**287.65**	**287.65**	**291.70**	**287.65**
INCOME						
Gross Income	0.00	246.40	308.00	308.00	308.00	308.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	5.20
TOTAL INCOME	**0.00**	**246.40**	**308.00**	**308.00**	**308.00**	**313.20**
NET BENEFIT(-COST)	**-17.05**	**-41.25**	**20.35**	**20.35**	**16.30**	**25.55**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	10.59
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	13.27%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.01
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.35

TABLE 2J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	17.05	0.00	0.00	0.00	4.05	0.00	13.00	0.00	4.05	0.00	0.00
Variable Expenditure	0.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00	18.00
Overhead Expenditures	0.00	269.65	269.65	269.65	269.65	269.65	269.65	269.65	269.65	269.65	269.65
TOTAL EXPENDITURES	17.05	287.65	287.65	287.65	291.70	287.65	300.65	287.65	291.70	287.65	287.65
INCOME											
Gross Income	0.00	246.40	308.00	308.00	308.00	308.00	308.00	308.00	308.00	308.00	308.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.36
TOTAL INCOME	**0.00**	**246.40**	**308.00**	**308.00**	**308.00**	**308.00**	**308.00**	**308.00**	**308.00**	**308.00**	**314.36**
NET BENEFIT(-COST)	**-17.05**	**-41.25**	**20.35**	**20.35**	**16.30**	**20.35**	**7.35**	**20.35**	**16.30**	**20.35**	**26.71**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	59.65
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	25.80%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.03
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	-2.39

TABLE 2K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	18.76	0.00	0.00	0.00	4.46	0.00
Unskilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Skilled Citizen Wages	0.00	90.00	90.00	90.00	90.00	90.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Overhead	0.00	0.85	0.85	0.85	0.85	0.85
Raw Materials Costs	0.00	19.80	19.80	19.80	19.80	19.80
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Overhead	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**18.76**	**110.65**	**110.65**	**110.65**	**115.11**	**110.65**
ECONOMIC BENEFITS						
Gross Income	0.00	271.04	338.80	338.80	338.80	338.80
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	5.72
TOTAL BENEFITS	**0.00**	**271.04**	**338.80**	**338.80**	**338.80**	**344.52**
NET BENEFIT(-COST)	**-18.76**	**160.39**	**228.15**	**228.15**	**223.69**	**233.87**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	829.35
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	891.58%
BENEFIT/COST RATIO (B/C) @ 6%	=	2.80
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	50.75

TABLE 2L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	18.76	0.00	0.00	0.00	4.46	0.00	14.30	0.00	4.46	0.00	0.00
Unskilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skilled Citizen Wages	0.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00	90.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Overhead	0.00	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Raw Materials Costs	0.00	19.80	19.80	19.80	19.80	19.80	19.80	19.80	19.80	19.80	19.80
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Overhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**18.76**	**110.65**	**110.65**	**110.65**	**115.11**	**110.65**	**124.95**	**110.65**	**115.11**	**110.65**	**110.65**
ECONOMIC BENEFITS											
Gross Income	0.00	271.04	338.80	338.80	338.80	338.80	338.80	338.80	338.80	338.80	338.80
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.99
TOTAL BENEFITS	**0.00**	**271.04**	**338.80**	**338.80**	**338.80**	**338.80**	**338.80**	**338.80**	**338.80**	**338.80**	**345.79**
NET BENEFIT(-COST)	**-18.76**	**160.39**	**228.15**	**228.15**	**223.69**	**228.15**	**213.85**	**228.15**	**223.69**	**228.15**	**235.14**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	1494.35
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	891.58%
BENEFIT/COST RATIO (B/C) @ 6%	=	2.86
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	90.59

FINANCIAL/ECONOMIC STATIC MODEL S-3: SKINWORK ENTERPRISE

TABLE 3A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	0	0	0	0	40	0	0	0
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**0**	**0**		**0**	**0**	**0**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	0	0	0	0	6	0	0	0
Office Equipment	0	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
Awl	1.00	1.00	1.00	1.10	6	0.23	0.17	0.18
Ruler	1.00	5.00	5.00	5.50	6	1.15	0.83	0.92
Rasp	1.00	7.00	7.00	7.70	6	1.61	1.17	1.28
Knife	0.25	5.00	1.25	1.38	4	0.29	0.31	0.34
Small adze	1.00	3.00	3.00	3.30	4	0.69	0.75	0.83
CONTINGENCY @ 10%			1.73	1.90	4	0.40	0.43	0.47
Subtotal Tradable			18.98	20.87		4.36	3.66	4.03
SUBTOTAL MOVABLE CAPITAL			**18.98**	**20.87**		**4.36**	**3.66**	**4.03**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			0	0	0			
Overhead			0	0	0			
SUBTOTAL WORKING CAPITAL			**0**	**0**	**0**			
TOTAL			**18.98**	**20.87**	**0.00**	**4.36**	**3.66**	**4.03**

FINANCIAL/ECONOMIC STATIC MODEL S-3: SKINWORK ENTERPRISE

TABLE 3B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
CRAFTS				
Tradable Items				
Skin mats	7	40.00	280.00	308.00
Skin bags	14	20.00	280.00	308.00
Hunting sets with bags	14	18.00	252.00	277.20
Dancing skirts	14	20.00	280.00	308.00
Subtotal Tradable			1092.00	1201.20
GROSS INCOME			**1092.00**	**1201.20**

TABLE 3C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			0	0
General Office Expenses			0	0
Printing/Stationary			0	0
Postage			0	0
Staff Training			0	0
Telephone			0	0
Utilities			0	0
Subtotal Domestic			0	0
Tradable Items				
RAW MATERIALS				
Duiker skins	21	5.00	105.00	115.50
Goat skins	14	4.00	56.00	61.60
Springbok skins	14	8.00	112.00	123.20
Sinew (small bundle)	7	3.00	21.00	23.10
MARKETING COSTS				
Advertising/Promotion			0	0
Packaging			0	0
Travel/Transportation			0	0
Subtotal Tradable			294.00	323.40
TOTAL VARIABLE EXPENDITURE			**294.00**	**323.40**

TABLE 3D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	0	0	0	0
Skilled (Technically)	1	729.12	729.12	495.00
Unskilled	0	0	0	0
OTHER COSTS				
Accounting Fees			0	0
Administration			0	0
Auditors Remuneration			0	0
Insurance			0	0
Maintenance/Repairs			0.95	0.95
Trading Licenses			0	0
Subtotal Domestic			730.07	495.95
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**730.07**	**495.95**

FINANCIAL/ECONOMIC STATIC MODEL S-3: SKINWORK ENTERPRISE

TABLE 3E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	18.98
GROSS INCOME	1092.00
VARIABLE COSTS	294.00
GROSS MARGIN	798.00
OVERHEAD COSTS	
Overhead Operating Costs	730.07
Loan Amortisation and Interest	0.00
Provisions for Capital Replacement (Depreciation)	3.66
Interest on Working Capital	0.00
Rental	0.00
TOTAL OVERHEAD COSTS	733.73
ANNUAL NET CASH INCOME	**64.27**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMENT	338.71%

TABLE 3F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	0.00
Tradable Component	20.87
TOTAL ECONOMIC VALUE	**20.87**
ECONOMIC BENEFITS	
Gross Income	1201.20
TOTAL ECONOMIC BENEFITS	**1201.20**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	0.00
Shadow Skilled Citizen Wages	495.00
Other Citizen Wages	0.00
Other Domestic Economic Costs - Variable	0.00
Other Domestic Economic Costs - Operating Overhead	0.95
SUBTOTAL DOMESTIC COMPONENT	495.95
TRADABLE COMPONENT	
Raw Material Purchases	323.40
Other Tradable Economic Costs - Variable	0.00
Other Tradable Economic Costs - Operating Overhead	0.00
SUBTOTAL TRADABLE COMPONENT	323.40
TOTAL ECONOMIC COSTS	**819.35**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**381.85**
NET VALUE ADDED (After Deducting Depreciation)	**377.82**

GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =		1829.45%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =		1810.16%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED =	PULA	20.87

TABLE 3G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0		
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 3G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		13.00						13.00				
Phased Expenditure		13.00	0.00	0.00	0.00	0.00	0.00	13.00	0.00	0.00	0.00	0.00
Depreciation		2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.17
Residual Value		13.00	10.83	8.67	6.50	4.33	2.17	13.00	10.83	8.67	6.50	4.33
"4 YEAR" ITEMS	4											
Total Expenditure		5.98				5.98				5.98		
Phased Expenditure		5.98	0.00	0.00	0.00	5.98	0.00	0.00	0.00	5.98	0.00	0.00
Depreciation		1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49
Residual Value		5.98	4.48	2.99	1.49	5.98	4.48	2.99	1.49	5.98	4.48	2.99
NON-DEPRECIABLE ASSETS												
Total Working Capital		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phased Expenditure		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		18.98	0.00	0.00	0.00	5.98	0.00	13.00	0.00	5.98	0.00	0.00
Total Financial Value		18.98	0.00	0.00	0.00	5.98	0.00	13.00	0.00	5.98	0.00	0.00
Total Economic Value		20.87	0.00	0.00	0.00	6.57	0.00	14.30	0.00	6.57	0.00	0.00
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		18.98	15.31	11.65	7.99	10.31	6.65	15.99	12.33	14.64	10.98	7.32
Total Financial Value		18.98	15.31	11.65	7.99	10.31	6.65	15.99	12.33	14.64	10.98	7.32
Total Economic Value		20.87	16.85	12.82	8.79	11.34	7.31	17.59	13.56	16.11	12.08	8.05

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

TABLE 3I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	18.98	0.00	0.00	0.00	0.00	5.98
Variable Expenditure	0.00	294.00	294.00	294.00	294.00	294.00
Overhead Expenditures	0.00	730.07	730.07	730.07	730.07	730.07
TOTAL EXPENDITUR	**18.98**	**1024.07**	**1024.07**	**1024.07**	**1024.07**	**1030.04**
INCOME						
Gross Income	0.00	873.60	1092.00	1092.00	1092.00	1092.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	6.65
TOTAL INCOME	**0.00**	**873.60**	**1092.00**	**1092.00**	**1092.00**	**1098.65**
NET BENEFIT(-COST)	**-18.98**	**-150.47**	**67.93**	**67.93**	**67.93**	**68.60**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	58.15
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	20.84%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.01
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.55

TABLE 3J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	18.98	0.00	0.00	0.00	0.00	5.98	0.00	13.00	0.00	5.98	0.00
Variable Expenditure	0.00	294.00	294.00	294.00	294.00	294.00	294.00	294.00	294.00	294.00	294.00
Overhead Expenditures	0.00	730.07	730.07	730.07	730.07	730.07	730.07	730.07	730.07	730.07	730.07
TOTAL EXPENDITURE	18.98	1024.07	1024.07	1024.07	1024.07	1030.04	1024.07	1037.07	1024.07	1030.04	1024.07
INCOME											
Gross Income	0.00	873.60	1092.00	1092.00	1092.00	1092.00	1092.00	1092.00	1092.00	1092.00	1092.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.32
TOTAL INCOME	**0.00**	**873.60**	**1092.00**	**1092.00**	**1092.00**	**1092.00**	**1092.00**	**1092.00**	**1092.00**	**1092.00**	**1099.32**
NET BENEFIT(-COST)	**-18.98**	**-150.47**	**67.93**	**67.93**	**67.93**	**61.96**	**67.93**	**54.93**	**67.93**	**61.96**	**75.25**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	247.55
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	35.23%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.03
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	2.96

TABLE 3K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	20.87	0.00	0.00	0.00	0.00	6.57
Unskilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Skilled Citizen Wages	0.00	495.00	495.00	495.00	495.00	495.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Operating Ov	0.00	0.95	0.95	0.95	0.95	0.95
Raw Materials Costs	0.00	323.40	323.40	323.40	323.40	323.40
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Operating Ov	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**20.87**	**819.35**	**819.35**	**819.35**	**819.35**	**825.92**
ECONOMIC BENEFITS						
Gross Income	0.00	960.96	1201.20	1201.20	1201.20	1201.20
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	7.31
TOTAL BENEFITS	**0.00**	**960.96**	**1201.20**	**1201.20**	**1201.20**	**1208.51**
NET BENEFIT(-COST)	**-20.87**	**141.61**	**381.85**	**381.85**	**381.85**	**382.59**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	1284.47
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	805.53%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.39
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	70.20

TABLE 3L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	20.87	0.00	0.00	0.00	0.00	6.57	0.00	14.30	0.00	6.57	0.00
Unskilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skilled Citizen Wages	0.00	495.00	495.00	495.00	495.00	495.00	495.00	495.00	495.00	495.00	495.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Operating Ov	0.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Raw Materials Costs	0.00	323.40	323.40	323.40	323.40	323.40	323.40	323.40	323.40	323.40	323.40
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Operating Ov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**20.87**	**819.35**	**819.35**	**819.35**	**819.35**	**825.92**	**819.35**	**833.65**	**819.35**	**825.92**	**819.35**
ECONOMIC BENEFITS											
Gross Income	0.00	960.96	1201.20	1201.20	1201.20	1201.20	1201.20	1201.20	1201.20	1201.20	1201.20
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.05
TOTAL BENEFITS	**0.00**	**960.96**	**1201.20**	**1201.20**	**1201.20**	**1201.20**	**1201.20**	**1201.20**	**1201.20**	**1201.20**	**1209.25**
NET BENEFIT(-COST)	**-20.87**	**141.61**	**381.85**	**381.85**	**381.85**	**375.28**	**381.85**	**367.55**	**381.85**	**375.28**	**389.90**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	2404.84
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	805.56%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.42
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	131.16

FINANCIAL/ECONOMIC STATIC MODEL S-4: CARVING ENTERPRISE

TABLE 4A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	0	0	0	0	40	0	0	0
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**0**	**0**		**0**	**0**	**0**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	0	0	0	0	6	0	0	0
Office Equipment	0	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
Axe	0.80	25.00	20.00	22.00	6	4.59	3.33	3.67
Saw	0.90	25.00	22.50	24.75	6	5.17	3.75	4.13
File	2.00	15.00	30.00	33.00	6	6.89	5.00	5.50
Knife	0.50	5.00	2.50	2.75	4	0.57	0.63	0.69
Adze	1.00	4.50	4.50	4.95	4	1.03	1.13	1.24
CONTINGENCY @ 10%			7.95	8.75	4	1.83	1.99	2.19
Subtotal Tradable			87.45	96.20		20.08	15.82	17.40
SUBTOTAL MOVABLE CAPITAL			**87.45**	**96.20**		**20.08**	**15.82**	**17.40**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			0	0	0			
Overhead			0	0	0			
SUBTOTAL WORKING CAPITAL			**0**	**0**	**0**			
TOTAL			**87.45**	**96.20**	**0.00**	**20.08**	**15.82**	**17.40**

FINANCIAL/ECONOMIC STATIC MODEL S-4: CARVING ENTERPRISE

TABLE 4B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
CRAFTS				
Tradable Items				
Carved animals	60	6.00	360.00	396.00
Sugar pots	50	5.00	250.00	275.00
Walking sticks	40	6.00	240.00	264.00
Mortar/pestle sets	14	40.00	560.00	616.00
Kgotla chairs	10	60.00	600.00	660.00
Subtotal Tradable			2010.00	2211.00
GROSS INCOME			**2010.00**	**2211.00**

TABLE 4C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			0	0
General Office Expenses			0	0
Printing/Stationary			0	0
Postage			0	0
Staff Training			0	0
Telephone			0	0
Utilities			0	0
Subtotal Domestic			0	0
Tradable Items				
RAW MATERIALS				
Sand paper	36	1.00	36.00	39.60
Chalk	12	1.50	18.00	19.80
Polish and wax	12	2.00	24.00	26.40
Glue	4	5.00	20.00	22.00
MARKETING COSTS				
Advertising/Promotion			0	0
Packaging			0	0
Travel/Transportation			0	0
Subtotal Tradable			98.00	107.80
TOTAL VARIABLE EXPENDITURE			**98.00**	**107.80**

TABLE 4D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	0	0	0	0
Skilled (Technically)	1	1401.00	1401.00	990.00
Unskilled	1	350.00	350.00	175.00
OTHER COSTS				
Accounting Fees			0	0
Administration			0	0
Auditors Remuneration			0	0
Insurance			0	0
Maintenance/Repairs			4.37	4.37
Trading Licenses			0	0
Subtotal Domestic			1755.37	1169.37
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**1755.37**	**1169.37**

FINANCIAL/ECONOMIC STATIC MODEL S-4: CARVING ENTERPRISE

TABLE 4E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	87.45
GROSS INCOME	2010.00
VARIABLE COSTS	98.00
GROSS MARGIN	1912.00
OVERHEAD COSTS	
Overhead Operating Costs	1755.37
Loan Amortisation and Interest	0.00
Provisions for Capital Replacement (Depreciation)	15.82
Interest on Working Capital	0.00
Rental	0.00
TOTAL OVERHEAD COSTS	1771.19
ANNUAL NET CASH INCOME	**140.81**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	161.01%

TABLE 4F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	0.00
Tradable Component	96.20
TOTAL ECONOMIC VALUE	**96.20**
ECONOMIC BENEFITS	
Gross Income	2211.00
TOTAL ECONOMIC BENEFITS	**2211.00**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	175.00
Shadow Skilled Citizen Wages	990.00
Other Citizen Wages	0.00
Other Domestic Economic Costs - Variable	0.00
Other Domestic Economic Costs - Operating Overhead	4.37
SUBTOTAL DOMESTIC COMPONENT	1169.37
TRADABLE COMPONENT	
Raw Material Purchases	107.80
Other Tradable Economic Costs - Variable	0.00
Other Tradable Economic Costs - Operating Overhead	0.00
SUBTOTAL TRADABLE COMPONENT	107.80
TOTAL ECONOMIC COSTS	**1277.17**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**933.83**
NET VALUE ADDED (After Deducting Depreciation)	**916.42**

GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	970.77%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	952.67%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	48.10

TABLE 4G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0	0									
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0	0									
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0	0									
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0	0						0			
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0	0				0				0	
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 4G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		72.50						72.50				
Phased Expenditure		72.50	0.00	0.00	0.00	0.00	0.00	72.50	0.00	0.00	0.00	0.00
Depreciation		12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08	12.08
Residual Value		72.50	60.42	48.33	36.25	24.17	12.08	72.50	60.42	48.33	36.25	24.17
"4 YEAR" ITEMS	4											
Total Expenditure		14.95				14.95				14.95		
Phased Expenditure		14.95	0.00	0.00	0.00	14.95	0.00	0.00	0.00	14.95	0.00	0.00
Depreciation		3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74	3.74
Residual Value		14.95	11.21	7.47	3.74	14.95	11.21	7.47	3.74	14.95	11.21	7.47
NON-DEPRECIABLE ASSETS												
Total Working Capital		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phased Expenditure		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		87.45	0.00	0.00	0.00	14.95	0.00	72.50	0.00	14.95	0.00	0.00
Total Financial Value		87.45	0.00	0.00	0.00	14.95	0.00	72.50	0.00	14.95	0.00	0.00
Total Economic Value		96.20	0.00	0.00	0.00	16.45	0.00	79.75	0.00	16.45	0.00	0.00
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		87.45	71.63	55.81	39.99	39.12	23.30	79.97	64.15	63.28	47.46	31.64
Total Financial Value		87.45	71.63	55.81	39.99	39.12	23.30	79.97	64.15	63.28	47.46	31.64
Total Economic Value		96.20	78.79	61.39	43.99	43.03	25.63	87.97	70.57	69.61	52.21	34.81

TABLE 4I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	87.45	0.00	0.00	0.00	0.00	14.95
Variable Expenditure	0.00	98.00	98.00	98.00	98.00	98.00
Overhead Expenditures	0.00	1755.37	1755.37	1755.37	1755.37	1755.37
TOTAL EXPENDITURI	**87.45**	**1853.37**	**1853.37**	**1853.37**	**1853.37**	**1868.32**
INCOME						
Gross Income	0.00	1608.00	2010.00	2010.00	2010.00	2010.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	23.30
TOTAL INCOME	**0.00**	**1608.00**	**2010.00**	**2010.00**	**2010.00**	**2033.30**
NET BENEFIT(-COST)	**-87.45**	**-245.37**	**156.63**	**156.63**	**156.63**	**164.97**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	188.03
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	27.54%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.03
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.83

TABLE 4J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	87.45	0.00	0.00	0.00	0.00	14.95	0.00	72.50	0.00	14.95	0.00
Variable Expenditure	0.00	98.00	98.00	98.00	98.00	98.00	98.00	98.00	98.00	98.00	98.00
Overhead Expenditures	0.00	1755.37	1755.37	1755.37	1755.37	1755.37	1755.37	1755.37	1755.37	1755.37	1755.37
TOTAL EXPENDITURE:	87.45	1853.37	1853.37	1853.37	1853.37	1868.32	1853.37	1925.87	1853.37	1868.32	1853.37
INCOME											
Gross Income	0.00	1608.00	2010.00	2010.00	2010.00	2010.00	2010.00	2010.00	2010.00	2010.00	2010.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.64
TOTAL INCOME	**0.00**	**1608.00**	**2010.00**	**2010.00**	**2010.00**	**2010.00**	**2010.00**	**2010.00**	**2010.00**	**2010.00**	**2041.64**
NET BENEFIT(-COST)	**-87.45**	**-245.37**	**156.63**	**156.63**	**156.63**	**141.68**	**156.63**	**84.13**	**156.63**	**141.68**	**188.27**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	599.55
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	39.05%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.05
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	3.36

TABLE 4K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	96.20	0.00	0.00	0.00	0.00	16.45
Unskilled Citizen Wages	0.00	175.00	175.00	175.00	175.00	175.00
Skilled Citizen Wages	0.00	990.00	990.00	990.00	990.00	990.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Operating Ov	0.00	4.37	4.37	4.37	4.37	4.37
Raw Materials Costs	0.00	107.80	107.80	107.80	107.80	107.80
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Operating Ove	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**96.20**	**1277.17**	**1277.17**	**1277.17**	**1277.17**	**1293.62**
ECONOMIC BENEFITS						
Gross Income	0.00	1768.80	2211.00	2211.00	2211.00	2211.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	25.63
TOTAL BENEFITS	**0.00**	**1768.80**	**2211.00**	**2211.00**	**2211.00**	**2236.63**
NET BENEFIT(-COST)	**-96.20**	**491.63**	**933.83**	**933.83**	**933.83**	**943.01**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	3233.13
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	578.74%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.62
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	-38.82

TABLE 4L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	96.20	0.00	0.00	0.00	0.00	16.45	0.00	79.75	0.00	16.45	0.00
Unskilled Citizen Wages	0.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00
Skilled Citizen Wages	0.00	990.00	990.00	990.00	990.00	990.00	990.00	990.00	990.00	990.00	990.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Operating Ov	0.00	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37
Raw Materials Costs	0.00	107.80	107.80	107.80	107.80	107.80	107.80	107.80	107.80	107.80	107.80
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Operating Ove	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**96.20**	**1277.17**	**1277.17**	**1277.17**	**1277.17**	**1293.62**	**1277.17**	**1356.92**	**1277.17**	**1293.62**	**1277.17**
ECONOMIC BENEFITS											
Gross Income	0.00	1768.80	2211.00	2211.00	2211.00	2211.00	2211.00	2211.00	2211.00	2211.00	2211.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.81
TOTAL BENEFITS	**0.00**	**1768.80**	**2211.00**	**2211.00**	**2211.00**	**2211.00**	**2211.00**	**2211.00**	**2211.00**	**2211.00**	**2245.81**
NET BENEFIT(-COST)	**-96.20**	**491.63**	**933.83**	**933.83**	**933.83**	**917.38**	**933.83**	**854.08**	**933.83**	**917.38**	**968.63**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	5947.23
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	578.79%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.66
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	-70.53

FINANCIAL/ECONOMIC STATIC MODEL S-5: LEATHER ENTERPRISE

TABLE 5A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	1	54000	54000	54000	40	6343	1350	1350
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			2700	2700	40	355	68	68
Subtotal Domestic			56700	56700		6698	1418	1418
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	1	0	4000	4400	15	526	267	293
CONTINGENCY @ 5%			200	220	15	26	13	15
Subtotal Tradable			4200	4620		552	280	308
SUBTOTAL FIXED CAPITAL			**60900**	**61320**		**7250**	**1698**	**1726**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	1	14200	14200	15620	4	4480	3550	3905
BASIC EQUIPMENT								
Furniture/Fixtures	1	8250	8250	9075	6	1894	1375	1513
Office Equipment	1	10000	10000	11000	6	2296	1667	1833
PRODUCTION EQUIPMENT								
Machines	1	48000	48000	52800	6	11021	8000	8800
Tools	1	10000	10000	11000	6	2296	1667	1833
Misc. Accessories	1	2000	2000	2200	6	459	333	367
CONTINGENCY @ 10%			9245	10170	6	2123	1541	1695
Subtotal Tradable			101695	111865		24569	18133	19946
SUBTOTAL MOVABLE CAPITAL			**101695**	**111865**		**24569**	**18133**	**19946**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			62490	68670	9374			
Overhead			25635	22574	3845			
SUBTOTAL WORKING CAPITAL			**88125**	**91244**	**13219**			
TOTAL			**250720**	**264429**	**13219**	**31819**	**19830**	**21671**

FINANCIAL/ECONOMIC STATIC MODEL S-5: LEATHER ENTERPRISE

TABLE 5B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
CRAFTS				
Tradable Items				
Leather goods			380000	418000
Fur goods			20000	22000
Misc. other goods			0	0
Subtotal Tradable			400000	440000
GROSS INCOME			**400000**	**440000**

TABLE 5C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			450	450
General Office Expenses			0	0
Printing/Stationary			375	375
Postage			200	200
Staff Training			0	0
Telephone			600	600
Utilities			675	675
Subtotal Domestic			2300	2300
Tradable Items				
RAW MATERIALS				
Leather/skins			180000	198000
Findings and lining materials			20000	22000
MARKETING COSTS				
Advertising/Promotion			500	550
Packaging			0	0
Travel/Transportation			5500	6050
Subtotal Tradable			206000	226600
TOTAL VARIABLE EXPENDITURE			**208300**	**228900**

TABLE 5D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	2	10800	21600	21600
Skilled (Technically)	14	3168	44352	39917
Unskilled	5	2175	10875	5438
OTHER COSTS				
Accounting Fees			300	300
Administration			0	0
Auditors Remuneration			0	0
Insurance			2300	2300
Maintenance/Repairs			5694	5694
Trading Licenses/Fees			330	0
Subtotal Domestic			85451	75248
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**85451**	**75248**

FINANCIAL/ECONOMIC STATIC MODEL S-5: LEATHER ENTERPRISE

TABLE 5E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	250720
GROSS INCOME	400000
VARIABLE COSTS	208300
GROSS MARGIN	191700
OVERHEAD COSTS	
Overhead Operating Costs	85451
Loan Amortisation and Interest	0
Provisions for Capital Replacement (Depreciation)	19830
Interest on Working Capital	13219
Rental	0
TOTAL OVERHEAD COSTS	118500
ANNUAL NET CASH INCOME	**73200**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	29.20%

TABLE 5F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	56700
Tradable Component	207729
TOTAL ECONOMIC VALUE	**264429**
ECONOMIC BENEFITS	
Gross Income	440000
TOTAL ECONOMIC BENEFITS	**440000**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	5438
Shadow Skilled Citizen Wages	39917
Other Citizen Wages	21600
Other Domestic Economic Costs - Variable	2300
Other Domestic Economic Costs - Operating Overhead	8294
SUBTOTAL DOMESTIC COMPONENT	77548
TRADABLE COMPONENT	
Raw Material Purchases	220000
Other Tradable Economic Costs - Variable	6600
Other Tradable Economic Costs - Operating Overhead	0
SUBTOTAL TRADABLE COMPONENT	226600
TOTAL ECONOMIC COSTS	**304148**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**135852**
NET VALUE ADDED (After Deducting Depreciation)	**114181**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	51.38%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	43.18%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	12592

TABLE 5G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		56700										
Phased Expenditure		56700	0	0	0	0	0	0	0	0	0	0
Depreciation		1418	1418	1418	1418	1418	1418	1418	1418	1418	1418	1418
Residual Value		56700	55283	53865	52448	51030	49613	48195	46778	45360	43943	42525
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0		
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 5G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		4200										
Phased Expenditure		4200	0	0	0	0	0	0	0	0	0	0
Depreciation		280	280	280	280	280	280	280	280	280	280	280
Residual Value		4200	3920	3640	3360	3080	2800	2520	2240	1960	1680	1400
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		87495						87495				
Phased Expenditure		43748	43748	0	0	0	0	43748	43748	0	0	0
Depreciation		7291	14583	14583	14583	14583	14583	14583	14583	14583	14583	14583
Residual Value		43748	80204	65621	51039	36456	21874	51039	80204	65621	51039	36456
"4 YEAR" ITEMS	4											
Total Expenditure		14200				14200				14200	0	0
Phased Expenditure		14200	0	0	0	14200	0	0	0	14200	0	0
Depreciation		3550	3550	3550	3550	3550	3550	3550	3550	3550	3550	3550
Residual Value		14200	10650	7100	3550	14200	10650	7100	3550	14200	10650	7100
NON-DEPRECIABLE ASSETS												
Total Working Capital		88125	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		88125	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		56700	0	0	0	0	0	0	0	0	0	0
Tradable Component		62148	43748	0	0	14200	0	43748	43748	14200	0	0
Total Financial Value		118848	43748	0	0	14200	0	43748	43748	14200	0	0
Total Economic Value		125062	48122	0	0	15620	0	48122	48122	15620	0	0
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		56700	55283	53865	52448	51030	49613	48195	46778	45360	43943	42525
Tradable Component		62148	94774	76361	57949	53736	35324	60659	85994	81781	63369	44956
Total Financial Value		118848	150056	130226	110396	104766	84936	108854	132771	127141	107311	87481
Total Economic Value		125062	159534	137862	116191	110140	88469	114920	141371	135319	113648	91977

TABLE 5I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	118848	43748	0	0	14200	0
Variable Expenditure	0	104150	156225	208300	208300	208300
Overhead Expenditures	0	85451	85451	85451	85451	85451
TOTAL EXPENDITURES	**118848**	**233348**	**241676**	**293751**	**307951**	**293751**
INCOME						
Gross Income	0	200000	300000	400000	400000	400000
Asset Residual Value	0	0	0	0	0	84936
TOTAL INCOME	**0**	**200000**	**300000**	**400000**	**400000**	**484936**
NET BENEFIT(-COST)	**-118848**	**-33348**	**58324**	**106249**	**92049**	**191186**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	194892
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	35.55%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.16
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	2.67

TABLE 5J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	118848	43748	0	0	14200	0	43748	43748	14200	0	0
Variable Expenditure	0	104150	156225	208300	208300	208300	208300	208300	208300	208300	208300
Overhead Expenditures	0	85451	85451	85451	85451	85451	85451	85451	85451	85451	85451
TOTAL EXPENDITURES	**118848**	**233348**	**241676**	**293751**	**307951**	**293751**	**337498**	**337498**	**307951**	**293751**	**293751**
INCOME											
Gross Income	0	200000	300000	400000	400000	400000	400000	400000	400000	400000	400000
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	91977
TOTAL INCOME	**0**	**200000**	**300000**	**400000**	**400000**	**400000**	**400000**	**400000**	**400000**	**400000**	**491977**
NET BENEFIT(-COST)	**-118848**	**-33348**	**58324**	**106249**	**92049**	**106249**	**62502**	**62502**	**92049**	**106249**	**198226**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	434033
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	40.47%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.20
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	4.56

TABLE 5K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	125062	48122	0	0	15620	0
Unskilled Citizen Wages	0	5438	5438	5438	5438	5438
Skilled Citizen Wages	0	39917	39917	39917	39917	39917
Other Citizen Wages	0	21600	21600	21600	21600	21600
Other Domestic Costs - Variable	0	1150	1725	2300	2300	2300
Other Domestic Costs - Overhead	0	8294	8294	8294	8294	8294
Raw Materials Costs	0	110000	165000	220000	220000	220000
Other Tradable Costs - Variable	0	3300	4950	6600	6600	6600
Other Tradable Costs - Overhead	0	0	0	0	0	0
TOTAL COSTS	**125062**	**237820**	**246923**	**304148**	**319768**	**304148**
ECONOMIC BENEFITS						
Gross Income	0	220000	330000	440000	440000	440000
Asset Residual Value	0	0	0	0	0	88469
TOTAL BENEFITS	**0**	**220000**	**330000**	**440000**	**440000**	**528469**
NET BENEFIT(-COST)	**-125062**	**-17820**	**83077**	**135852**	**120232**	**224321**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	291499
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	47.80%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.24
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	3.57

TABLE 5L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	125062	48122	0	0	15620	0	48122	48122	15620	0	0
Unskilled Citizen Wages	0	5438	5438	5438	5438	5438	5438	5438	5438	5438	5438
Skilled Citizen Wages	0	39917	39917	39917	39917	39917	39917	39917	39917	39917	39917
Other Citizen Wages	0	21600	21600	21600	21600	21600	21600	21600	21600	21600	21600
Other Domestic Costs - Variable	0	1150	1725	2300	2300	2300	2300	2300	2300	2300	2300
Other Domestic Costs - Overhead	0	8294	8294	8294	8294	8294	8294	8294	8294	8294	8294
Raw Materials Costs	0	110000	165000	220000	220000	220000	220000	220000	220000	220000	220000
Other Tradable Costs - Variable	0	3300	4950	6600	6600	6600	6600	6600	6600	6600	6600
Other Tradable Costs - Overhead	0	0	0	0	0	0	0	0	0	0	0
TOTAL COSTS	**125062**	**237820**	**246923**	**304148**	**319768**	**304148**	**352270**	**352270**	**319768**	**304148**	**304148**
ECONOMIC BENEFITS											
Gross Income	0	220000	330000	440000	440000	440000	440000	440000	440000	440000	440000
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	91977
TOTAL BENEFITS	**0**	**220000**	**330000**	**440000**	**440000**	**440000**	**440000**	**440000**	**440000**	**440000**	**531977**
NET BENEFIT(-COST)	**-125062**	**-17820**	**83077**	**135852**	**120232**	**135852**	**87730**	**87730**	**120232**	**135852**	**227829**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	609561
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	51.92%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.28
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	6.24

FINANCIAL/ECONOMIC STATIC MODEL S-6: WEAVING ENTERPRISE

TABLE 6A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	3	15000	45000	45000	40	5286	1125	1125
Water System	1	2000	2000	2000	15	263	133	133
CONTINGENCY @ 5%			2350	2350	15	309	157	157
Subtotal Domestic			49350	49350		5858	1415	1415
Tradable Items								
Latrines	2	3000	6000	6600	10	976	600	660
Fencing	1	4000	4000	4400	15	526	267	293
CONTINGENCY @ 5%			500	550	15	66	33	37
Subtotal Tradable			10500	11550		1568	900	990
SUBTOTAL FIXED CAPITAL			**59850**	**60900**		**7426**	**2315**	**2405**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	1	20000	20000	22000	4	6309	5000	5500
BASIC EQUIPMENT								
Furniture/Fixtures	1	6000	6000	6600	6	1378	1000	1100
Office Equipment	1	10000	10000	11000	6	2296	1667	1833
PRODUCTION EQUIPMENT								
Looms	10	2300	23000	25300	6	5281	3833	4217
Frames	5	200	1000	1100	6	230	167	183
Misc. Accessories	1	2000	2000	2200	6	459	333	367
CONTINGENCY @ 10%			6200	6820	6	1424	1033	1137
Subtotal Tradable			68200	75020		17376	13033	14337
SUBTOTAL MOVABLE CAPITAL			**68200**	**75020**		**17376**	**13033**	**14337**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			17850	18813	2678			
Overhead			20178	18555	3027			
SUBTOTAL WORKING CAPITAL			**38028**	**37368**	**5704**			
TOTAL			**166078**	**173288**	**5704**	**24802**	**15348**	**16742**

FINANCIAL/ECONOMIC STATIC MODEL S-6: WEAVING ENTERPRISE

TABLE 6B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
CRAFTS				
Tradable Items				
Tapestries			108000	118800
Other Woven Items			50000	55000
Misc. Other Goods			8000	8800
Subtotal Tradable			166000	182600
GROSS INCOME			**166000**	**182600**

TABLE 6C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			400	400
General Office Expenses			1800	1800
Printing/Stationary			750	750
Postage			700	700
Staff Training			2000	0
Telephone			1050	1050
Utilities			700	700
Subtotal Domestic			7400	5400
Tradable Items				
RAW MATERIALS				
Wool, Yarn, Flax			30000	33000
Dyes, Chemicals, Salt			10000	11000
MARKETING COSTS				
Advertising/Promotion			7500	8250
Packaging			500	550
Travel/Transportation			4100	4510
Subtotal Tradable			52100	57310
TOTAL VARIABLE EXPENDITURE			**59500**	**62710**

TABLE 6D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	1	12700	12700	12700
Skilled (Technically)	16	2475	39600	35640
Unskilled	1.5	1800	2700	1350
OTHER COSTS				
Accounting Fees			4000	4000
Administration			700	700
Auditors Remuneration			950	950
Insurance			2500	2500
Maintenance/Repairs			4009	4009
Trading Licenses			100	0
Subtotal Domestic			67259	61849
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**67259**	**61849**

FINANCIAL/ECONOMIC STATIC MODEL S-6: WEAVING ENTERPRISE

TABLE 6E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	166078
GROSS INCOME	166000
VARIABLE COSTS	59500
GROSS MARGIN	106500
OVERHEAD COSTS	
Overhead Operating Costs	67259
Loan Amortisation and Interest	0
Provisions for Capital Replacement (Depreciation)	15348
Interest on Working Capital	5704
Rental	0
TOTAL OVERHEAD COSTS	**88311**
ANNUAL NET CASH INCOME	**18189**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	10.95%

TABLE 6F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	49350
Tradable Component	123938
TOTAL ECONOMIC VALUE	**173288**
ECONOMIC BENEFITS	
Gross Income	182600
TOTAL ECONOMIC BENEFITS	**182600**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	1350
Shadow Skilled Citizen Wages	35640
Other Citizen Wages	12700
Other Domestic Economic Costs - Variable	5400
Other Domestic Economic Costs - Operating Overhead	12159
SUBTOTAL DOMESTIC COMPONENT	67249
TRADABLE COMPONENT	
Raw Material Purchases	44000
Other Tradable Economic Costs - Variable	13310
Other Tradable Economic Costs - Operating Overhead	0
SUBTOTAL TRADABLE COMPONENT	57310
TOTAL ECONOMIC COSTS	**124559**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**58042**
NET VALUE ADDED (After Deducting Depreciation)	**41300**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	33.49%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	23.83%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	9367

TABLE 6G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		45000										
Phased Expenditure		45000	0	0	0	0	0	0	0	0	0	0
Depreciation		1125	1125	1125	1125	1125	1125	1125	1125	1125	1125	1125
Residual Value		45000	43875	42750	41625	40500	39375	38250	37125	36000	34875	33750
"15 YEAR" ITEMS	15											
Total Expenditure		4350										
Phased Expenditure		4350	0	0	0	0	0	0	0	0	0	0
Depreciation		290	290	290	290	290	290	290	290	290	290	290
Residual Value		4350	4060	3770	3480	3190	2900	2610	2320	2030	1740	1450
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 6G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		4500										
Phased Expenditure		4500	0	0	0	0	0	0	0	0	0	0
Depreciation		300	300	300	300	300	300	300	300	300	300	300
Residual Value		4500	4200	3900	3600	3300	3000	2700	2400	2100	1800	1500
"10 YEAR" ITEMS	10											
Total Expenditure		6000										6000
Phased Expenditure		6000	0	0	0	0	0	0	0	0	0	6000
Depreciation		600	600	600	600	600	600	600	600	600	600	600
Residual Value		6000	5400	4800	4200	3600	3000	2400	1800	1200	600	6000
"6 YEAR" ITEMS	6											
Total Expenditure		48200						48200				
Phased Expenditure		24100	24100	0	0	0	0	24100	24100	0	0	0
Depreciation		4017	8033	8033	8033	8033	8033	8033	8033	8033	8033	8033
Residual Value		24100	44183	36150	28117	20083	12050	28117	44183	36150	28117	20083
"4 YEAR" ITEMS	4											
Total Expenditure		20000				20000				20000	0	0
Phased Expenditure		20000	0	0	0	20000	0	0	0	20000	0	0
Depreciation		5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
Residual Value		20000	15000	10000	5000	20000	15000	10000	5000	20000	15000	10000
NON-DEPRECIABLE ASSETS												
Total Working Capital		38028	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		38028	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		49350	0	0	0	0	0	0	0	0	0	0
Tradable Component		54600	24100	0	0	20000	0	24100	24100	20000	0	6000
Total Financial Value		103950	24100	0	0	20000	0	24100	24100	20000	0	6000
Total Economic Value		109410	26510	0	0	22000	0	26510	26510	22000	0	6600
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		49350	47935	46520	45105	43690	42275	40860	39445	38030	36615	35200
Tradable Component		54600	68783	54850	40917	46983	33050	43217	53383	59450	45517	37583
Total Financial Value		103950	116718	101370	86022	90673	75325	84077	92828	97480	82132	72783
Total Economic Value		109410	123597	106855	90113	95372	78630	88398	98167	103425	86683	76542

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

TABLE 6I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	103950	24100	0	0	20000	0
Variable Expenditure	0	29750	44625	59500	59500	59500
Overhead Expenditures	0	67259	67259	67259	67259	67259
TOTAL EXPENDITURI	**103950**	**121109**	**111884**	**126759**	**146759**	**126759**
INCOME						
Gross Income	0	83000	124500	166000	166000	166000
Asset Residual Value	0	0	0	0	0	75325
TOTAL INCOME	**0**	**83000**	**124500**	**166000**	**166000**	**241325**
NET BENEFIT(-COST)	**-103950**	**-38109**	**12617**	**39242**	**19242**	**114567**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	4837
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	6.97%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.01
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.16

TABLE 6J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	103950	24100	0	0	20000	0	24100	24100	20000	0	6000
Variable Expenditure	0	29750	44625	59500	59500	59500	59500	59500	59500	59500	59500
Overhead Expenditures	0	67259	67259	67259	67259	67259	67259	67259	67259	67259	67259
TOTAL EXPENDITURI	**103950**	**121109**	**111884**	**126759**	**146759**	**126759**	**150859**	**150859**	**146759**	**126759**	**132759**
INCOME											
Gross Income	0	83000	124500	166000	166000	166000	166000	166000	166000	166000	166000
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	72783
TOTAL INCOME	**0**	**83000**	**124500**	**166000**	**166000**	**166000**	**166000**	**166000**	**166000**	**166000**	**238783**
NET BENEFIT(-COST)	**-103950**	**-38109**	**12617**	**39242**	**19242**	**39242**	**15142**	**15142**	**19242**	**39242**	**106025**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	60459
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	12.68%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.06
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.64

TABLE 6K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	109410	26510	0	0	22000	0
Unskilled Citizen Wages	0	1350	1350	1350	1350	1350
Skilled Citizen Wages	0	35640	35640	35640	35640	35640
Other Citizen Wages	0	12700	12700	12700	12700	12700
Other Domestic Costs - Variable	0	2700	4050	5400	5400	5400
Other Domestic Costs - Operating O	0	12159	12159	12159	12159	12159
Raw Materials Costs	0	22000	33000	44000	44000	44000
Other Tradable Costs - Variable	0	6655	9983	13310	13310	13310
Other Tradable Costs - Operating O\	0	0	0	0	0	0
TOTAL COSTS	**109410**	**119714**	**108881**	**124559**	**146559**	**124559**
ECONOMIC BENEFITS						
Gross Income	0	91300	136950	182600	182600	182600
Asset Residual Value	0	0	0	0	0	78630
TOTAL BENEFITS	**0**	**91300**	**136950**	**182600**	**182600**	**261230**
NET BENEFIT(-COST)	**-109410**	**-28413**	**28069**	**58042**	**36042**	**136672**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	64317
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	18.08%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.11
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	-1.69

TABLE 6L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	109410	26510	0	0	22000	0	26510	26510	22000	0	6600
Unskilled Citizen Wages	0	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350
Skilled Citizen Wages	0	35640	35640	35640	35640	35640	35640	35640	35640	35640	35640
Other Citizen Wages	0	12700	12700	12700	12700	12700	12700	12700	12700	12700	12700
Other Domestic Costs - Variable	0	2700	4050	5400	5400	5400	5400	5400	5400	5400	5400
Other Domestic Costs - Operating O	0	12159	12159	12159	12159	12159	12159	12159	12159	12159	12159
Raw Materials Costs	0	22000	33000	44000	44000	44000	44000	44000	44000	44000	44000
Other Tradable Costs - Variable	0	6655	9983	13310	13310	13310	13310	13310	13310	13310	13310
Other Tradable Costs - Operating O\	0	0	0	0	0	0	0	0	0	0	0
TOTAL COSTS	**109410**	**119714**	**108881**	**124559**	**146559**	**124559**	**151069**	**151069**	**146559**	**124559**	**131159**
ECONOMIC BENEFITS											
Gross Income	0	91300	136950	182600	182600	182600	182600	182600	182600	182600	182600
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	76542
TOTAL BENEFITS	**0**	**91300**	**136950**	**182600**	**182600**	**182600**	**182600**	**182600**	**182600**	**182600**	**259142**
NET BENEFIT(-COST)	**-109410**	**-28413**	**28069**	**58042**	**36042**	**58042**	**31532**	**31532**	**36042**	**58042**	**127983**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	170802
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	23.39%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.17
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	2.62

FINANCIAL/ECONOMIC STATIC MODEL S-7: TEXTILE ENTERPRISE

TABLE 7A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	1	54000	54000	54000	40	6343	1350	1350
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			2700	2700	15	355	180	180
Subtotal Domestic			56700	56700		6698	1530	1530
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	1	4000	4000	4400	15	526	267	293
CONTINGENCY @ 5%			200	220	15	26	13	15
Subtotal Tradable			4200	4620		552	280	308
SUBTOTAL FIXED CAPITAL			**60900**	**61320**		**7250**	**1810**	**1838**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	1	18000	18000	19800	4	5678	4500	4950
BASIC EQUIPMENT								
Furniture/Fixtures	1	10000	10000	11000	6	2296	1667	1833
Office Equipment	1	11000	11000	12100	6	2526	1833	2017
PRODUCTION EQUIPMENT								
Sewing machines	8	2400	19200	21120	6	4408	3200	3520
Silkscreen equip.	1	3600	3600	3960	6	827	600	660
Misc. Accessories	1	1500	1500	1650	6	344	250	275
CONTINGENCY @ 10%			6330	6963	6	1453	1055	1161
Subtotal Tradable			69630	76593		17533	13105	14416
SUBTOTAL MOVABLE CAPITAL			**69630**	**76593**		**17533**	**13105**	**14416**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			26145	28397	3922			
Overhead			28347	25113	4252			
SUBTOTAL WORKING CAPITAL			**54492**	**53510**	**8174**			
TOTAL			**185022**	**191423**	**8174**	**24783**	**14915**	**16254**

TABLE 7B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
CRAFTS				
Tradable Items				
Printed cloth			3000	3300
Printed/sewn goods			219000	240900
Misc. Other Goods			6000	6600
Subtotal Tradable			228000	250800
GROSS INCOME			**228000**	**250800**

TABLE 7C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			400	400
General Office Expenses			1500	1500
Printing/Stationary			1000	1000
Postage			1000	1000
Staff Training			500	0
Telephone			1500	1500
Utilities			1200	1200
Subtotal Domestic			7100	6600
Tradable Items				
RAW MATERIALS				
Cloth			65000	71500
Ink			8000	8800
Silk			750	825
Frames			500	550
T-shirts			1000	1100
Misc.			1000	1100
MARKETING COSTS				
Advertising/Promotion			1200	1320
Packaging			600	660
Travel/Transportation			2000	2200
Subtotal Tradable			80050	88055
TOTAL VARIABLE EXPENDITURE			**87150**	**94655**

TABLE 7D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	2	10200	20400	20400
Skilled (Technically)	15	3120	46800	42120
Unskilled	5	2400	12000	6000
OTHER COSTS				
Accounting Fees			1500	1500
Administration			1600	1600
Auditors Remuneration			5000	5000
Insurance			3000	3000
Maintenance/Repairs			4091	4091
Trading Licenses			100	0
Subtotal Domestic			94491	83711
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**94491**	**83711**

FINANCIAL/ECONOMIC STATIC MODEL S-7: TEXTILE ENTERPRISE

TABLE 7E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	185022
GROSS INCOME	228000
VARIABLE COSTS	87150
GROSS MARGIN	140850
OVERHEAD COSTS	
Overhead Operating Costs	94491
Loan Amortisation and Interest	0
Provisions for Capital Replacement (Depreciation)	14915
Interest on Working Capital	8174
Rental	0
TOTAL OVERHEAD COSTS	**117579**
ANNUAL NET CASH INCOME	**23271**
ANNUAL 'NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	12.58%

TABLE 7F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	56700
Tradable Component	134723
TOTAL ECONOMIC VALUE	**191423**
ECONOMIC BENEFITS	
Gross Income	250800
TOTAL ECONOMIC BENEFITS	**250800**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	6000
Shadow Skilled Citizen Wages	42120
Other Citizen Wages	20400
Other Domestic Economic Costs - Variable	6600
Other Domestic Economic Costs - Operating Overhead	15191
SUBTOTAL DOMESTIC COMPONENT	90311
TRADABLE COMPONENT	
Raw Material Purchases	83875
Other Tradable Economic Costs - Variable	4180
Other Tradable Economic Costs - Operating Overhead	0
SUBTOTAL TRADABLE COMPONENT	88055
TOTAL ECONOMIC COSTS	**178366**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**72435**
NET VALUE ADDED (After Deducting Depreciation)	**56181**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	37.84%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	29.35%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	8701

TABLE 7G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		54000										
Phased Expenditure		54000	0	0	0	0	0	0	0	0	0	0
Depreciation		1350	1350	1350	1350	1350	1350	1350	1350	1350	1350	1350
Residual Value		54000	52650	51300	49950	48600	47250	45900	44550	43200	41850	40500
"15 YEAR" ITEMS	15											
Total Expenditure		2700										
Phased Expenditure		2700	0	0	0	0	0	0	0	0	0	0
Depreciation		180	180	180	180	180	180	180	180	180	180	180
Residual Value		2700	2520	2340	2160	1980	1800	1620	1440	1260	1080	900
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 7G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		4200										
Phased Expenditure		4200	0	0	0	0	0	0	0	0	0	0
Depreciation		280	280	280	280	280	280	280	280	280	280	280
Residual Value		4200	3920	3640	3360	3080	2800	2520	2240	1960	1680	1400
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		51630						51630				
Phased Expenditure		25815	25815	0	0	0	0	25815	25815	0	0	0
Depreciation		4303	8605	8605	8605	8605	8605	8605	8605	8605	8605	8605
Residual Value		25815	47328	38723	30118	21513	12908	30118	47328	38723	30118	21513
"4 YEAR" ITEMS	4											
Total Expenditure		18000				18000				18000	0	0
Phased Expenditure		18000	0	0	0	18000	0	0	0	18000	0	0
Depreciation		4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
Residual Value		18000	13500	9000	4500	18000	13500	9000	4500	18000	13500	9000
NON-DEPRECIABLE ASSETS												
Total Working Capital		54492	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		54492	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		56700	0	0	0	0	0	0	0	0	0	0
Tradable Component		48015	25815	0	0	18000	0	25815	25815	18000	0	0
Total Financial Value		104715	25815	0	0	18000	0	25815	25815	18000	0	0
Total Economic Value		109517	28397	0	0	19800	0	28397	28397	19800	0	0
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		56700	55170	53640	52110	50580	49050	47520	45990	44460	42930	41400
Tradable Component		48015	64748	51363	37978	42593	29208	41638	54068	58683	45298	31913
Total Financial Value		104715	119918	105003	90088	93173	78258	89158	100058	103143	88228	73313
Total Economic Value		109517	126392	110139	93885	97432	81178	93321	105464	109011	92757	76504

TABLE 7I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	104715	25815	0	0	18000	0
Variable Expenditure	0	43575	65363	87150	87150	87150
Overhead Expenditures	0	94491	94491	94491	94491	94491
TOTAL EXPENDITUR	**104715**	**163881**	**159853**	**181641**	**199641**	**181641**
INCOME						
Gross Income	0	114000	171000	228000	228000	228000
Asset Residual Value	0	0	0	0	0	78258
TOTAL INCOME	**0**	**114000**	**171000**	**228000**	**228000**	**306258**
NET BENEFIT(-COST)	**-104715**	**-49881**	**11147**	**46360**	**28360**	**124617**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	11941
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	8.20%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.01
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.22

TABLE 7J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	104715	25815	0	0	18000	0	25815	25815	18000	0	0
Variable Expenditure	0	43575	65363	87150	87150	87150	87150	87150	87150	87150	87150
Overhead Expenditures	0	94491	94491	94491	94491	94491	94491	94491	94491	94491	94491
TOTAL EXPENDITUR	**104715**	**163881**	**159853**	**181641**	**199641**	**181641**	**207456**	**207456**	**199641**	**181641**	**181641**
INCOME											
Gross Income	0	114000	171000	228000	228000	228000	228000	228000	228000	228000	228000
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	73313
TOTAL INCOME	**0**	**114000**	**171000**	**228000**	**228000**	**228000**	**228000**	**228000**	**228000**	**228000**	**301313**
NET BENEFIT(-COST)	**-104715**	**-49881**	**11147**	**46360**	**28360**	**46360**	**20545**	**20545**	**28360**	**46360**	**119672**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	89040
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	14.83%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.06
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.82

TABLE 7K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	109517	28397	0	0	19800	0
Unskilled Citizen Wages	0	6000	6000	6000	6000	6000
Skilled Citizen Wages	0	42120	42120	42120	42120	42120
Other Citizen Wages	0	20400	20400	20400	20400	20400
Other Domestic Costs - Variable	0	3300	4950	6600	6600	6600
Other Domestic Costs - Operating O	0	15191	15191	15191	15191	15191
Raw Materials Costs	0	41938	62906	83875	83875	83875
Other Tradable Costs - Variable	0	2090	3135	4180	4180	4180
Other Tradable Costs - Operating Ov	0	0	0	0	0	0
TOTAL COSTS	**109517**	**159435**	**154702**	**178366**	**198166**	**178366**
ECONOMIC BENEFITS						
Gross Income	0	125400	188100	250800	250800	250800
Asset Residual Value	0	0	0	0	0	81178
TOTAL BENEFITS	**0**	**125400**	**188100**	**250800**	**250800**	**331978**
NET BENEFIT(-COST)	**-109517**	**-34034**	**33398**	**72435**	**52635**	**153613**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	99431
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	23.34%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.13
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.96

TABLE 7L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	109517	28397	0	0	19800	0	28397	28397	19800	0	0
Unskilled Citizen Wages	0	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
Skilled Citizen Wages	0	42120	42120	42120	42120	42120	42120	42120	42120	42120	42120
Other Citizen Wages	0	20400	20400	20400	20400	20400	20400	20400	20400	20400	20400
Other Domestic Costs - Variable	0	3300	4950	6600	6600	6600	6600	6600	6600	6600	6600
Other Domestic Costs - Operating O	0	15191	15191	15191	15191	15191	15191	15191	15191	15191	15191
Raw Materials Costs	0	41938	62906	83875	83875	83875	83875	83875	83875	83875	83875
Other Tradable Costs - Variable	0	2090	3135	4180	4180	4180	4180	4180	4180	4180	4180
Other Tradable Costs - Operating Ov	0	0	0	0	0	0	0	0	0	0	0
TOTAL COSTS	**109517**	**159435**	**154702**	**178366**	**198166**	**178366**	**206762**	**206762**	**198166**	**178366**	**178366**
ECONOMIC BENEFITS											
Gross Income	0	125400	188100	250800	250800	250800	250800	250800	250800	250800	250800
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	76504
TOTAL BENEFITS	**0**	**125400**	**188100**	**250800**	**250800**	**250800**	**250800**	**250800**	**250800**	**250800**	**327304**
NET BENEFIT(-COST)	**-109517**	**-34034**	**33398**	**72435**	**52635**	**72435**	**44038**	**44038**	**52635**	**72435**	**148938**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	249182
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	29.00%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.18
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	3.22

FINANCIAL/ECONOMIC STATIC MODEL S-8: POTTERY ENTERPRISE

TABLE 8A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	0	0	0	0	40	0	0	0
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**0**	**0**		**0**	**0**	**0**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	0	0	0	0	6	0	0	0
Office Equipment	0	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
Pottery wheels	6	1300	7800	8580	6	1791	1300	1430
Kilns	2	3000	6000	6600	6	1378	1000	1100
Misc. Accessories	1	5000	5000	5500	6	1148	833	917
CONTINGENCY @ 10%			1880	2068	6	432	313	345
Subtotal Tradable			20680	22748		4748	3447	3791
SUBTOTAL MOVABLE CAPITAL			**20680**	**22748**		**4748**	**3447**	**3791**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			5235	5672	785			
Overhead			5221	4507	783			
SUBTOTAL WORKING CAPITAL			**10456**	**10179**	**1568**			
TOTAL			**31136**	**32927**	**1568**	**4748**	**3447**	**3791**

FINANCIAL/ECONOMIC STATIC MODEL S-8: POTTERY ENTERPRISE

TABLE 8B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
CRAFTS				
Tradable Items				
Pottery			24000	26400
Misc. Other Goods			0	0
Subtotal Tradable			24000	26400
GROSS INCOME			**24000**	**26400**

TABLE 8C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			100	100
General Office Expenses			700	700
Printing/Stationary			275	275
Postage			125	125
Staff Training			0	0
Telephone			300	300
Utilities			1400	1400
Subtotal Domestic			2900	2900
Tradable Items				
RAW MATERIALS				
Clay			9750	10725
Glazes			3500	3850
MARKETING COSTS				
Advertising/Promotion			0	0
Packaging			0	0
Travel/Transportation			1300	1430
Subtotal Tradable			14550	16005
TOTAL VARIABLE EXPENDITURE			**17450**	**18905**

TABLE 8D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	1	3000	3000	3000
Skilled (Technically)	5	2040	10200	9180
Unskilled	3	840	2520	1260
OTHER COSTS				
Accounting Fees			250	250
Administration			0	0
Auditors Remuneration			0	0
Insurance			300	300
Maintenance/Repairs			1034	1034
Trading Licenses			100	0
Subtotal Domestic			17404	15024
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**17404**	**15024**

FINANCIAL/ECONOMIC STATIC MODEL S-8: POTTERY ENTERPRISE

TABLE 8E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	31136
GROSS INCOME	24000
VARIABLE COSTS	17450
GROSS MARGIN	6550
OVERHEAD COSTS	
Overhead Operating Costs	17404
Loan Amortisation and Interest	0
Provisions for Capital Replacement (Depreciation)	3447
Interest on Working Capital	1568
Rental	1200
TOTAL OVERHEAD COSTS	23619
ANNUAL NET CASH INCOME	**-17069**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	-54.82%

TABLE 8F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	0
Tradable Component	32927
TOTAL ECONOMIC VALUE	**32927**
ECONOMIC BENEFITS	
Gross Income	26400
TOTAL ECONOMIC BENEFITS	**26400**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	1260
Shadow Skilled Citizen Wages	9180
Other Citizen Wages	3000
Other Domestic Economic Costs - Variable	2900
Other Domestic Economic Costs - Operating Overhead	1584
SUBTOTAL DOMESTIC COMPONENT	17924
TRADABLE COMPONENT	
Raw Material Purchases	14575
Other Tradable Economic Costs - Variable	1430
Other Tradable Economic Costs - Operating Overhead	0
SUBTOTAL TRADABLE COMPONENT	16005
TOTAL ECONOMIC COSTS	**33929**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**-7529**
NET VALUE ADDED (After Deducting Depreciation)	**-11320**

GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	-22.87%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	-34.38%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	3659

TABLE 8G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 8G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		20680						20680				
Phased Expenditure		10340	10340	0	0	0	0	10340	10340	0	0	0
Depreciation		1723	3447	3447	3447	3447	3447	3447	3447	3447	3447	3447
Residual Value		10340	18957	15510	12063	8617	5170	12063	18957	15510	12063	8617
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
NON-DEPRECIABLE ASSETS												
Total Working Capital		10456	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		10456	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		0	0	0	0	0	0	0	0	0	0	0
Tradable Component		10340	10340	0	0	0	0	10340	10340	0	0	0
Total Financial Value		10340	10340	0	0	0	0	10340	10340	0	0	0
Total Economic Value		11374	11374	0	0	0	0	11374	11374	0	0	0
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		0	0	0	0	0	0	0	0	0	0	0
Tradable Component		10340	18957	15510	12063	8617	5170	12063	18957	15510	12063	8617
Total Financial Value		10340	18957	15510	12063	8617	5170	12063	18957	15510	12063	8617
Total Economic Value		11374	20852	17061	13270	9478	5687	13270	20852	17061	13270	9478

TABLE 8I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	10340	10340	0	0	0	0
Variable Expenditure	0	8725	13088	17450	17450	17450
Overhead Expenditures	0	18604	18604	18604	18604	18604
TOTAL EXPENDITURES	**10340**	**37669**	**31692**	**36054**	**36054**	**36054**
INCOME						
Gross Income	0	12000	18000	24000	24000	24000
Asset Residual Value	0	0	0	0	0	5170
TOTAL INCOME	**0**	**12000**	**18000**	**24000**	**24000**	**29170**
NET BENEFIT(-COST)	**-10340**	**-25669**	**-13692**	**-12054**	**-12054**	**-6884**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	-67504
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	-100%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.55
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	0.00

TABLE 8J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	10340	10340	0	0	0	0	10340	10340	0	0	0
Variable Expenditure	0	8725	13088	17450	17450	17450	17450	17450	17450	17450	17450
Overhead Expenditures	0	18604	18604	18604	18604	18604	18604	18604	18604	18604	18604
TOTAL EXPENDITURES	**10340**	**37669**	**31692**	**36054**	**36054**	**36054**	**46394**	**46394**	**36054**	**36054**	**36054**
INCOME											
Gross Income	0	12000	18000	24000	24000	24000	24000	24000	24000	24000	24000
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	8617
TOTAL INCOME	**0**	**12000**	**18000**	**24000**	**24000**	**24000**	**24000**	**24000**	**24000**	**24000**	**32617**
NET BENEFIT(-COST)	**-10340**	**-25669**	**-13692**	**-12054**	**-12054**	**-12054**	**-22394**	**-22394**	**-12054**	**-12054**	**-3437**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	-115769
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	-100%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.57
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	0.00

TABLE 8K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	11374	11374	0	0	0	0
Unskilled Citizen Wages	0	1260	1260	1260	1260	1260
Skilled Citizen Wages	0	9180	9180	9180	9180	9180
Other Citizen Wages	0	3000	3000	3000	3000	3000
Other Domestic Costs - Variable	0	1450	2175	2900	2900	2900
Other Domestic Costs - Overhead	0	1584	1584	1584	1584	1584
Raw Materials Costs	0	7288	10931	14575	14575	14575
Other Tradable Costs - Variable	0	715	1073	1430	1430	1430
Other Tradable Costs - Overhead	0	0	0	0	0	0
TOTAL COSTS	**11374**	**35851**	**29203**	**33929**	**33929**	**33929**
ECONOMIC BENEFITS						
Gross Income	0	13200	19800	26400	26400	26400
Asset Residual Value	0	0	0	0	0	5687
TOTAL BENEFITS	**0**	**13200**	**19800**	**26400**	**26400**	**32087**
NET BENEFIT(-COST)	**-11374**	**-22651**	**-9403**	**-7529**	**-7529**	**-1842**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	-51672
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	-100%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.64
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	0.00

TABLE 8L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	11374	11374	0	0	0	0	11374	11374	0	0	0
Unskilled Citizen Wages	0	1260	1260	1260	1260	1260	1260	1260	1260	1260	1260
Skilled Citizen Wages	0	9180	9180	9180	9180	9180	9180	9180	9180	9180	9180
Other Citizen Wages	0	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
Other Domestic Costs - Variable	0	1450	2175	2900	2900	2900	2900	2900	2900	2900	2900
Other Domestic Costs - Overhead	0	1584	1584	1584	1584	1584	1584	1584	1584	1584	1584
Raw Materials Costs	0	7288	10931	14575	14575	14575	14575	14575	14575	14575	14575
Other Tradable Costs - Variable	0	715	1073	1430	1430	1430	1430	1430	1430	1430	1430
Other Tradable Costs - Overhead	0	0	0	0	0	0	0	0	0	0	0
TOTAL COSTS	**11374**	**35851**	**29203**	**33929**	**33929**	**33929**	**45303**	**45303**	**33929**	**33929**	**33929**
ECONOMIC BENEFITS											
Gross Income	0	13200	19800	26400	26400	26400	26400	26400	26400	26400	26400
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	9478
TOTAL BENEFITS	**0**	**13200**	**19800**	**26400**	**26400**	**26400**	**26400**	**26400**	**26400**	**26400**	**35878**
NET BENEFIT(-COST)	**-11374**	**-22651**	**-9403**	**-7529**	**-7529**	**-7529**	**-18903**	**-18903**	**-7529**	**-7529**	**1949**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	-87746
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	-80.31%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.66
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	0.08

FINANCIAL/ECONOMIC STATIC MODEL S-9: JEWELLERY ENTERPRISE

TABLE 9A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	0	0	0	0	40	0	0	0
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**0**	**0**		**0**	**0**	**0**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	1	555	555	611	6	127	93	102
Office Equipment	1	100	100	110	6	23	17	18
PRODUCTION EQUIPMENT								
Electric Equipment	1	400	400	440	6	92	67	73
Hand Tools	1	200	200	220	6	46	33	37
Misc. Accessories	0	0	0	0	6	0	0	0
CONTINGENCY @ 10%			126	138	6	29	21	23
Subtotal Tradable			1381	1519		317	230	253
SUBTOTAL MOVABLE CAPITAL			**1381**	**1519**		**317**	**230**	**253**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			1538	1625	231			
Overhead			4011	3714	602			
SUBTOTAL WORKING CAPITAL			**5548**	**5338**	**832**			
TOTAL			**6929**	**6857**	**832**	**317**	**230**	**253**

FINANCIAL/ECONOMIC STATIC MODEL S-9: JEWELLERY ENTERPRISE

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
CRAFTS				
Tradable Items				
Jewellery			19600	21560
Subtotal Tradable			19600	21560
GROSS INCOME			**19600**	**21560**

TABLE 9C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences/Membership Fees			105	0
OTHER COSTS				
Bank Fees			35	35
General Office Expenses			225	225
Printing/Stationary			200	200
Postage			250	250
Staff Training			0	0
Telephone			120	120
Utilities			240	240
Subtotal Domestic			1175	1070
Tradable Items				
RAW MATERIALS				
Jewellery Materials			2800	3080
			0	0
MARKETING COSTS				
Advertising/Promotion			250	275
Packaging			100	110
Travel/Transportation			800	880
Subtotal Tradable			3950	4345
TOTAL VARIABLE EXPENDITURE			**5125**	**5415**

TABLE 9D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	1	3000	3000	3000
Skilled (Technically)	5	1980	9900	8910
Unskilled	0	0	0	0
OTHER COSTS				
Accounting Fees			0	0
Administration			400	400
Auditors Remuneration			0	0
Insurance			0	0
Maintenance/Repairs			69	69
Trading Licenses			0	0
Subtotal Domestic			13369	12379
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**13369**	**12379**

FINANCIAL/ECONOMIC STATIC MODEL S-9: JEWELLERY ENTERPRISE

TABLE 9E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	6929
GROSS INCOME	19600
VARIABLE COSTS	5125
GROSS MARGIN	14475
OVERHEAD COSTS	
Overhead Operating Costs	13369
Loan Amortisation and Interest	0
Provisions for Capital Replacement (Depreciation)	230
Interest on Working Capital	832
Rental	1800
TOTAL OVERHEAD COSTS	16231
ANNUAL NET CASH INCOME	**-1756**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	-25.35%

TABLE 9F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	0
Tradable Component	6857
TOTAL ECONOMIC VALUE	**6857**
ECONOMIC BENEFITS	
Gross Income	21560
TOTAL ECONOMIC BENEFITS	**21560**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	0
Shadow Skilled Citizen Wages	8910
Other Citizen Wages	3000
Other Domestic Economic Costs - Variable	1070
Other Domestic Economic Costs - Operating Overhead	469
SUBTOTAL DOMESTIC COMPONENT	13449
TRADABLE COMPONENT	
Raw Material Purchases	3080
Other Tradable Economic Costs - Variable	1265
Other Tradable Economic Costs - Operating Overhead	0
SUBTOTAL TRADABLE COMPONENT	4345
TOTAL ECONOMIC COSTS	**17794**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**3766**
NET VALUE ADDED (After Deducting Depreciation)	**3513**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	54.92%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	51.23%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	1143

TABLE 9G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 9G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		1381						1381				
Phased Expenditure		690	690	0	0	0	0	690	690	0	0	0
Depreciation		115	230	230	230	230	230	230	230	230	230	230
Residual Value		690	1265	1035	805	575	345	805	1265	1035	805	575
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
NON-DEPRECIABLE ASSETS												
Total Working Capital		5548	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		5548	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		0	0	0	0	0	0	0	0	0	0	0
Tradable Component		690	690	0	0	0	0	690	690	0	0	0
Total Financial Value		690	690	0	0	0	0	690	690	0	0	0
Total Economic Value		759	759	0	0	0	0	759	759	0	0	0
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		0	0	0	0	0	0	0	0	0	0	0
Tradable Component		690	1265	1035	805	575	345	805	1265	1035	805	575
Total Financial Value		690	1265	1035	805	575	345	805	1265	1035	805	575
Total Economic Value		759	1392	1139	886	633	380	886	1392	1139	886	633

TABLE 9I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	690	690	0	0	0	0
Variable Expenditure	0	2563	3844	5125	5125	5125
Overhead Expenditures	0	15169	15169	15169	15169	15169
TOTAL EXPENDITURES	**690**	**18422**	**19013**	**20294**	**20294**	**20294**
INCOME						
Gross Income	0	9800	14700	19600	19600	19600
Asset Residual Value	0	0	0	0	0	345
TOTAL INCOME	**0**	**9800**	**14700**	**19600**	**19600**	**19945**
NET BENEFIT(-COST)	**-690**	**-8622**	**-4313**	**-694**	**-694**	**-349**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	-13260
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	-100%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.83
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	0.00

TABLE 9J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	690	690	0	0	0	0	690	690	0	0	0
Variable Expenditure	0	2563	3844	5125	5125	5125	5125	5125	5125	5125	5125
Overhead Expenditures	0	15169	15169	15169	15169	15169	15169	15169	15169	15169	15169
TOTAL EXPENDITURES	**690**	**18422**	**19013**	**20294**	**20294**	**20294**	**20984**	**20984**	**20294**	**20294**	**20294**
INCOME											
Gross Income	0	9800	14700	19600	19600	19600	19600	19600	19600	19600	19600
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	575
TOTAL INCOME	**0**	**9800**	**14700**	**19600**	**19600**	**19600**	**19600**	**19600**	**19600**	**19600**	**20175**
NET BENEFIT(-COST)	**-690**	**-8622**	**-4313**	**-694**	**-694**	**-694**	**-1384**	**-1384**	**-694**	**-694**	**-119**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	-16153
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	-100%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.88
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	0.00

TABLE 9K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	759	759	0	0	0	0
Unskilled Citizen Wages	0	0	0	0	0	0
Skilled Citizen Wages	0	8910	8910	8910	8910	8910
Other Citizen Wages	0	3000	3000	3000	3000	3000
Other Domestic Costs - Variable	0	535	803	1070	1070	1070
Other Domestic Costs - Overhead	0	469	469	469	469	469
Raw Materials Costs	0	1540	2310	3080	3080	3080
Other Tradable Costs - Variable	0	633	949	1265	1265	1265
Other Tradable Costs - Overhead	0	0	0	0	0	0
TOTAL COSTS	**759**	**15846**	**16440**	**17794**	**17794**	**17794**
ECONOMIC BENEFITS						
Gross Income	0	10780	16170	21560	21560	21560
Asset Residual Value	0	0	0	0	0	380
TOTAL BENEFITS	**0**	**10780**	**16170**	**21560**	**21560**	**21940**
NET BENEFIT(-COST)	**-759**	**-5066**	**-270**	**3766**	**3766**	**4146**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	3268
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	23.69%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.05
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	-1.90

TABLE 9L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	759	759	0	0	0	0	759	759	0	0	0
Unskilled Citizen Wages	0	0	0	0	0	0	0	0	0	0	0
Skilled Citizen Wages	0	8910	8910	8910	8910	8910	8910	8910	8910	8910	8910
Other Citizen Wages	0	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
Other Domestic Costs - Variable	0	535	803	1070	1070	1070	1070	1070	1070	1070	1070
Other Domestic Costs - Overhead	0	469	469	469	469	469	469	469	469	469	469
Raw Materials Costs	0	1540	2310	3080	3080	3080	3080	3080	3080	3080	3080
Other Tradable Costs - Variable	0	633	949	1265	1265	1265	1265	1265	1265	1265	1265
Other Tradable Costs - Overhead	0	0	0	0	0	0	0	0	0	0	0
TOTAL COSTS	**759**	**15846**	**16440**	**17794**	**17794**	**17794**	**18553**	**18553**	**17794**	**17794**	**17794**
ECONOMIC BENEFITS											
Gross Income	0	10780	16170	21560	21560	21560	21560	21560	21560	21560	21560
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	633
TOTAL BENEFITS	**0**	**10780**	**16170**	**21560**	**21560**	**21560**	**21560**	**21560**	**21560**	**21560**	**22193**
NET BENEFIT(-COST)	**-759**	**-5066**	**-270**	**3766**	**3766**	**3766**	**3007**	**3007**	**3766**	**3766**	**4399**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	13535
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	38.53%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.11
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	-4.15

FINANCIAL/ECONOMIC STATIC MODEL S-10: MISC. CRAFTS ENTERPRISE

TABLE 10A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	0	0	0	0	40	0	0	0
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**0**	**0**		**0**	**0**	**0**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	1	200	200	220	6	46	33	37
Office Equipment	0	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
	0	0	0	0	6	0	0	0
	0	0	0	0	6	0	0	0
Misc. Accessories	1	200	200	220	6	46	33	37
CONTINGENCY @ 10%			40	44	6	9	7	7
Subtotal Tradable			440	484		101	73	81
SUBTOTAL MOVABLE CAPITAL			**440**	**484**		**101**	**73**	**81**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			248	272	37			
Overhead			2299	2149	345			
SUBTOTAL WORKING CAPITAL			**2546**	**2421**	**382**			
TOTAL			**2986**	**2905**	**382**	**101**	**73**	**81**

FINANCIAL/ECONOMIC STATIC MODEL S-10: MISC. CRAFTS ENTERPRISE

TABLE 10B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
CRAFTS				
Tradable Items				
Gourds			4000	4400
Dolls			1500	1650
Misc. Other Goods			600	660
Subtotal Tradable			6100	6710
GROSS INCOME			**6100**	**6710**

TABLE 10C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			0	0
General Office Expenses			0	0
Printing/Stationary			0	0
Postage			0	0
Staff Training			0	0
Telephone			0	0
Utilities			0	0
Subtotal Domestic			0	0
Tradable Items				
RAW MATERIALS				
Plain gourds			300	330
Dyes			100	110
MARKETING COSTS				
Advertising/Promotion			0	0
Packaging			0	0
Travel/Transportation			425	468
Subtotal Tradable			825	908
TOTAL VARIABLE EXPENDITURE			**825**	**908**

TABLE 10D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	1	2640	2640	2640
Skilled (Technically)	2	2500	5000	4500
Unskilled	0	0	0	0
OTHER COSTS				
Accounting Fees			0	0
Administration			0	0
Auditors Remuneration			0	0
Insurance			0	0
Maintenance/Repairs			22	22
Trading Licenses			0	0
Subtotal Domestic			7662	7162
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**7662**	**7162**

FINANCIAL/ECONOMIC STATIC MODEL S-10: MISC. CRAFTS ENTERPRISE

TABLE 10E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	2986
GROSS INCOME	6100
VARIABLE COSTS	825
GROSS MARGIN	5275
OVERHEAD COSTS	
Overhead Operating Costs	7662
Loan Amortisation and Interest	0
Provisions for Capital Replacement (Depreciation)	73
Interest on Working Capital	382
Rental	0
TOTAL OVERHEAD COSTS	8117
ANNUAL NET CASH INCOME	**-2842**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	-95.18%

TABLE 10F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	0
Tradable Component	2905
TOTAL ECONOMIC VALUE	**2905**
ECONOMIC BENEFITS	
Gross Income	6710
TOTAL ECONOMIC BENEFITS	**6710**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	0
Shadow Skilled Citizen Wages	4500
Other Citizen Wages	2640
Other Domestic Economic Costs - Variable	0
Other Domestic Economic Costs - Operating Overhead	22
SUBTOTAL DOMESTIC COMPONENT	7162
TRADABLE COMPONENT	
Raw Material Purchases	440
Other Tradable Economic Costs - Variable	468
Other Tradable Economic Costs - Operating Overhead	0
SUBTOTAL TRADABLE COMPONENT	908
TOTAL ECONOMIC COSTS	**8070**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**-1360**
NET VALUE ADDED (After Deducting Depreciation)	**-1440**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	-46.80%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	-49.58%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	968

TABLE 10G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 10G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		440						440				
Phased Expenditure		220	220	0	0	0	0	220	220	0	0	0
Depreciation		37	73	73	73	73	73	73	73	73	73	73
Residual Value		220	403	330	257	183	110	257	403	330	257	183
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
NON-DEPRECIABLE ASSETS												
Total Working Capital		2546	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		2546	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		0	0	0	0	0	0	0	0	0	0	0
Tradable Component		220	220	0	0	0	0	220	220	0	0	0
Total Financial Value		220	220	0	0	0	0	220	220	0	0	0
Total Economic Value		242	242	0	0	0	0	242	242	0	0	0
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		0	0	0	0	0	0	0	0	0	0	0
Tradable Component		220	403	330	257	183	110	257	403	330	257	183
Total Financial Value		220	403	330	257	183	110	257	403	330	257	183
Total Economic Value		242	444	363	282	202	121	282	444	363	282	202

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

TABLE 10I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	220	220	0	0	0	0
Variable Expenditure	0	413	619	825	825	825
Overhead Expenditures	0	7662	7662	7662	7662	7662
TOTAL EXPENDITURES	**220**	**8295**	**8281**	**8487**	**8487**	**8487**
INCOME						
Gross Income	0	3050	4575	6100	6100	6100
Asset Residual Value	0	0	0	0	0	110
TOTAL INCOME	**0**	**3050**	**4575**	**6100**	**6100**	**6210**
NET BENEFIT(-COST)	**-220**	**-5245**	**-3706**	**-2387**	**-2387**	**-2277**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	-13266
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	-100%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.61
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	0.00

TABLE 10J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	220	220	0	0	0	0	220	220	0	0	0
Variable Expenditure	0	413	619	825	825	825	825	825	825	825	825
Overhead Expenditures	0	7662	7662	7662	7662	7662	7662	7662	7662	7662	7662
TOTAL EXPENDITURES	**220**	**8295**	**8281**	**8487**	**8487**	**8487**	**8707**	**8707**	**8487**	**8487**	**8487**
INCOME											
Gross Income	0	3050	4575	6100	6100	6100	6100	6100	6100	6100	6100
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	183
TOTAL INCOME	**0**	**3050**	**4575**	**6100**	**6100**	**6100**	**6100**	**6100**	**6100**	**6100**	**6283**
NET BENEFIT(-COST)	**-220**	**-5245**	**-3706**	**-2387**	**-2387**	**-2387**	**-2607**	**-2607**	**-2387**	**-2387**	**-2204**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	-20620
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	-100%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.65
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	0.00

TABLE 10K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	242	242	0	0	0	0
Unskilled Citizen Wages	0	0	0	0	0	0
Skilled Citizen Wages	0	4500	4500	4500	4500	4500
Other Citizen Wages	0	2640	2640	2640	2640	2640
Other Domestic Costs - Variable	0	0	0	0	0	0
Other Domestic Costs - Overhead	0	22	22	22	22	22
Raw Materials Costs	0	220	330	440	440	440
Other Tradable Costs - Variable	0	234	351	468	468	468
Other Tradable Costs - Overhead	0	0	0	0	0	0
TOTAL COSTS	**242**	**7858**	**7843**	**8070**	**8070**	**8070**
ECONOMIC BENEFITS						
Gross Income	0	3355	5033	6710	6710	6710
Asset Residual Value	0	0	0	0	0	121
TOTAL BENEFITS	**0**	**3355**	**5033**	**6710**	**6710**	**6831**
NET BENEFIT(-COST)	**-242**	**-4503**	**-2810**	**-1360**	**-1360**	**-1239**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	-9561
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	-100%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.70
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	0.00

TABLE 10L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	242	242	0	0	0	0	242	242	0	0	0
Unskilled Citizen Wages	0	0	0	0	0	0	0	0	0	0	0
Skilled Citizen Wages	0	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
Other Citizen Wages	0	2640	2640	2640	2640	2640	2640	2640	2640	2640	2640
Other Domestic Costs - Variable	0	0	0	0	0	0	0	0	0	0	0
Other Domestic Costs - Overhead	0	22	22	22	22	22	22	22	22	22	22
Raw Materials Costs	0	220	330	440	440	440	440	440	440	440	440
Other Tradable Costs - Variable	0	234	351	468	468	468	468	468	468	468	468
Other Tradable Costs - Overhead	0	0	0	0	0	0	0	0	0	0	0
TOTAL COSTS	**242**	**7858**	**7843**	**8070**	**8070**	**8070**	**8312**	**8312**	**8070**	**8070**	**8070**
ECONOMIC BENEFITS											
Gross Income	0	3355	5033	6710	6710	6710	6710	6710	6710	6710	6710
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	202
TOTAL BENEFITS	**0**	**3355**	**5033**	**6710**	**6710**	**6710**	**6710**	**6710**	**6710**	**6710**	**6912**
NET BENEFIT(-COST)	**-242**	**-4503**	**-2810**	**-1360**	**-1360**	**-1360**	**-1602**	**-1602**	**-1360**	**-1360**	**-1158**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	-13890
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	-100%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.75
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	0.00

FINANCIAL/ECONOMIC STATIC MODEL S-11: BEER BREWING ENTERPRISE

TABLE 11A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	0	0	18.00	18.00	4	2.11	4.50	4.50
Water System	0	0	0.00	0.00	15	0.00	0.00	0.00
CONTINGENCY @ 5%			0.90	0.90	4	0.28	0.23	0.23
Subtotal Domestic			18.90	18.90		2.40	4.73	4.73
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**18.90**	**18.90**		**2.40**	**4.73**	**4.73**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	3	10.00	30.00	33.00	6	6.89	5.00	5.50
Office Equipment	0	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
25l containers	2	25.00	50.00	55.00	6	11.48	8.33	9.17
250ml cups	10	1.00	10.00	11.00	6	2.30	1.67	1.83
Wooden spoons	2	3.50	7.00	7.70	6	1.61	1.17	1.28
CONTINGENCY @ 10%			9.70	10.67	6	2.23	1.62	1.78
Subtotal Tradable			106.70	117.37		24.50	17.78	19.56
SUBTOTAL MOVABLE CAPITAL			**106.70**	**117.37**		**24.50**	**17.78**	**19.56**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			0	0	0			
Overhead			0	0	0			
SUBTOTAL WORKING CAPITAL			**0**	**0**	**0**			
TOTAL			**125.60**	**136.27**	**0.00**	**26.90**	**22.51**	**24.29**

FINANCIAL/ECONOMIC STATIC MODEL S-11: BEER BREWING ENTERPRISE

TABLE 11B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
PRODUCTS				
Non-Tradable Items				
Cups of beer	7040	0.15	1056.00	1056.00
Subtotal Non-Tradable			1056.00	1056.00
GROSS INCOME			**1056.00**	**1056.00**

TABLE 11C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			0	0
General Office Expenses			0	0
Printing/Stationary			0	0
Postage			0	0
Staff Training			0	0
Telephone			0	0
Utilities			0	0
Subtotal Domestic			0	0
Tradable Items				
RAW MATERIALS				
Sugar (2.5kg bag)	70	3.50	245.00	269.50
Grewia fruit (= 1 litre container)	12	1.50	18.00	19.80
MARKETING COSTS				
Advertising/Promotion			0	0
Packaging			0	0
Travel/Transportation			0	0
Subtotal Tradable			263.00	289.30
TOTAL VARIABLE EXPENDITURE			**263.00**	**289.30**

TABLE 11D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	0	0	0	0
Skilled (Technically)	1	700.00	700.00	180.00
Unskilled	0.0	0	0	0
OTHER COSTS				
Accounting Fees			0	0
Administration			0	0
Auditors Remuneration			0	0
Insurance			0	0
Maintenance/Repairs			5.52	5.52
Trading Licenses			0	0
Subtotal Domestic			705.52	185.52
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**705.52**	**185.52**

FINANCIAL/ECONOMIC STATIC MODEL S-11: BEER BREWING ENTERPRISE

TABLE 11E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	125.60
GROSS INCOME	1056.00
VARIABLE COSTS	263.00
GROSS MARGIN	793.00
OVERHEAD COSTS	
Overhead Operating Costs	705.52
Loan Amortisation and Interest	0.00
Provisions for Capital Replacement (Depreciation)	22.51
Interest on Working Capital	0.00
Rental	0.00
TOTAL OVERHEAD COSTS	728.03
ANNUAL NET CASH INCOME	**64.97**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	51.73%

TABLE 11F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	18.90
Tradable Component	117.37
TOTAL ECONOMIC VALUE	**136.27**
ECONOMIC BENEFITS	
Gross Income	1056.00
TOTAL ECONOMIC BENEFITS	**1056.00**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	0.00
Shadow Skilled Citizen Wages	180.00
Other Citizen Wages	0.00
Other Domestic Economic Costs - Variable	0.00
Other Domestic Economic Costs - Operating Overhead	5.52
SUBTOTAL DOMESTIC COMPONENT	185.52
TRADABLE COMPONENT	
Raw Material Purchases	289.30
Other Tradable Economic Costs - Variable	0.00
Other Tradable Economic Costs - Operating Overhead	0.00
SUBTOTAL TRADABLE COMPONENT	289.30
TOTAL ECONOMIC COSTS	**474.82**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**581.18**
NET VALUE ADDED (After Deducting Depreciation)	**556.89**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	426.49%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	408.67%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	136.27

TABLE 11G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		18.90				18.90				18.90		
Phased Expenditure		18.90	0.00	0.00	0.00	18.90	0.00	0.00	0.00	18.90	0.00	0.00
Depreciation		4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73	4.73
Residual Value		18.90	14.18	9.45	4.73	18.90	14.18	9.45	4.73	18.90	14.18	9.45

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 11G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		106.70						106.70				
Phased Expenditure		53.35	53.35	0.00	0.00	0.00	0.00	53.35	53.35	0.00	0.00	0.00
Depreciation		8.89	17.78	17.78	17.78	17.78	17.78	17.78	17.78	17.78	17.78	17.78
Residual Value		53.35	97.81	80.03	62.24	44.46	26.68	62.24	97.81	80.03	62.24	44.46
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
NON-DEPRECIABLE ASSETS												
Total Working Capital		0	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		18.90	0.00	0.00	0.00	18.90	0.00	0.00	0.00	18.90	0.00	0.00
Tradable Component		53.35	53.35	0.00	0.00	0.00	0.00	53.35	53.35	0.00	0.00	0.00
Total Financial Value		72.25	53.35	0.00	0.00	18.90	0.00	53.35	53.35	18.90	0.00	0.00
Total Economic Value		77.59	58.69	0.00	0.00	18.90	0.00	58.69	58.69	18.90	0.00	0.00
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		18.90	14.18	9.45	4.73	18.90	14.18	9.45	4.73	18.90	14.18	9.45
Tradable Component		53.35	97.81	80.03	62.24	44.46	26.68	62.24	97.81	80.03	62.24	44.46
Total Financial Value		72.25	111.98	89.48	66.97	63.36	40.85	71.69	102.53	98.93	76.42	53.91
Total Economic Value		77.59	121.76	97.48	73.19	67.80	43.52	77.92	112.31	106.93	82.64	58.35

TABLE 11I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	72.25	53.35	0.00	0.00	18.90	0.00
Variable Expenditure	0.00	131.50	197.25	263.00	263.00	263.00
Overhead Expenditures	0.00	352.76	529.14	705.52	705.52	705.52
TOTAL EXPENDITUR	**72.25**	**537.61**	**726.39**	**968.52**	**987.42**	**968.52**
INCOME						
Gross Income	0.00	528.00	792.00	1056.00	1056.00	1056.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	40.85
TOTAL INCOME	**0.00**	**528.00**	**792.00**	**1056.00**	**1056.00**	**1096.85**
NET BENEFIT(-COST)	**-72.25**	**-9.61**	**65.61**	**87.48**	**68.58**	**128.33**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	189.37
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	54.08%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.06
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	-3.90

TABLE 11J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	72.25	53.35	0.00	0.00	18.90	0.00	53.35	53.35	18.90	0.00	0.00
Varinble Expenditure	0.00	131.50	197.25	263.00	263.00	263.00	263.00	263.00	263.00	263.00	263.00
Overhead Expenditures	0.00	352.76	529.14	705.52	705.52	705.52	705.52	705.52	705.52	705.52	705.52
TOTAL EXPENDITUR	**72.25**	**537.61**	**726.39**	**968.52**	**987.42**	**968.52**	**1021.87**	**1021.87**	**987.42**	**968.52**	**968.52**
INCOME											
Gross Income	0.00	528.00	792.00	1056.00	1056.00	1056.00	1056.00	1056.00	1056.00	1056.00	1056.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.91
TOTAL INCOME	**0.00**	**528.00**	**792.00**	**1056.00**	**1056.00**	**1056.00**	**1056.00**	**1056.00**	**1056.00**	**1056.00**	**1109.91**
NET BENEFIT(-COST)	**-72.25**	**-9.61**	**65.61**	**87.48**	**68.58**	**87.48**	**34.13**	**34.13**	**68.58**	**87.48**	**141.38**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	368.59
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	56.98%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.06
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	-6.52

TABLE 11K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	77.59	58.69	0.00	0.00	18.90	0.00
Unskilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Skilled Citizen Wages	0.00	90.00	135.00	180.00	180.00	180.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Operating O	0.00	5.52	5.52	5.52	5.52	5.52
	0.00					
Raw Materials Costs	0.00	144.65	216.98	289.30	289.30	289.30
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Operating Ov	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	77.59	298.86	357.50	474.82	493.72	474.82
ECONOMIC BENEFITS						
Gross Income	0.00	528.00	792.00	1056.00	1056.00	1056.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	43.52
TOTAL BENEFITS	0.00	528.00	792.00	1056.00	1056.00	1099.52
NET BENEFIT(-COST)	-77.59	229.14	434.50	581.18	562.28	624.69

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	1816.45
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	361.17%
BENEFIT/COST RATIO (B/C) @ 6%	=	2.06
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	27.37

TABLE 11L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	77.59	58.69	0.00	0.00	18.90	0.00	58.69	58.69	18.90	0.00	0.00
Unskilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skilled Citizen Wages	0.00	90.00	135.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Operating O	0.00	5.52	5.52	5.52	5.52	5.52	5.52	5.52	5.52	5.52	5.52
Raw Materials Costs	0.00	144.65	216.98	289.30	289.30	289.30	289.30	289.30	289.30	289.30	289.30
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Operating Ov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	77.59	298.86	357.50	474.82	493.72	474.82	533.51	533.51	493.72	474.82	474.82
ECONOMIC BENEFITS											
Gross Income	0.00	528.00	792.00	1056.00	1056.00	1056.00	1056.00	1056.00	1056.00	1056.00	1056.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	58.35
TOTAL BENEFITS	0.00	528.00	792.00	1056.00	1056.00	1056.00	1056.00	1056.00	1056.00	1056.00	1114.35
NET BENEFIT(-COST)	-77.59	229.14	434.50	581.18	562.28	581.18	522.49	522.49	562.28	581.18	639.53

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	3455.31
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	361.37%
BENEFIT/COST RATIO (B/C) @ 6%	=	2.07
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	51.10

TABLE 12A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	0	0	0	0	40	0	0	0
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**0**	**0**		**0**	**0**	**0**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	0	0	0	0	6	0	0	0
Office Equipment	0	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
Sickle	0.80	4.00	3.20	3.52	6	0.73	0.53	0.59
Misc. Accessories	0	0	0	0	6	0	0	0
CONTINGENCY @ 10%			0.32	0.35	6	0.07	0.05	0.06
Subtotal Tradable			3.52	3.87		0.81	0.59	0.65
SUBTOTAL MOVABLE CAPITAL			**3.52**	**3.87**		**0.81**	**0.59**	**0.65**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			0	0	0			
Overhead			0	0	0			
SUBTOTAL WORKING CAPITAL			**0**	**0**	**0**			
TOTAL			**3.52**	**3.87**	**0.00**	**0.81**	**0.59**	**0.65**

FINANCIAL/ECONOMIC STATIC MODEL S-12: GRASS/REED COLLECTION ENTERPRISE

TABLE 12B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
PRODUCTS				
Non-Tradable Items				
Bundles of reeds	60	2	120	120
Bundles of thatching grass	60	2	120	120
Subtotal Non-Tradable			240	240
GROSS INCOME			**240**	**240**

TABLE 12C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			0	0
General Office Expenses			0	0
Printing/Stationary			0	0
Postage			0	0
Staff Training			0	0
Telephone			0	0
Utilities			0	0
Subtotal Domestic			0	0
Tradable Items				
RAW MATERIALS				
None			0	0
None			0	0
MARKETING COSTS				
Advertising/Promotion			0	0
Packaging			0	0
Travel/Transportation (hired sledge)	7	25	175	175
Subtotal Tradable			175	175
TOTAL VARIABLE EXPENDITURE			**175**	**175**

TABLE 12D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	0	0	0	0
Skilled (Technically)	0	0	0	0
Unskilled	1	64	64	32
OTHER COSTS				
Accounting Fees			0	0
Administration			0	0
Auditors Remuneration			0	0
Insurance			0	0
Maintenance/Repairs			0.18	0.18
Trading Licenses			0	0
Subtotal Domestic			64	32
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**64.18**	**32.18**

TABLE 12E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	3.52
GROSS INCOME	240.00
VARIABLE COSTS	175.00
GROSS MARGIN	65.00
OVERHEAD COSTS	
Overhead Operating Costs	64.18
Loan Amortisation and Interest	0.00
Provisions for Capital Replacement (Depreciation)	0.59
Interest on Working Capital	0.00
Rental	0.00
TOTAL OVERHEAD COSTS	64.76
ANNUAL NET CASH INCOME	**0.24**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	6.74%

TABLE 12F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	0.00
Tradable Component	3.87
TOTAL ECONOMIC VALUE	**3.87**
ECONOMIC BENEFITS	
Gross Income	240.00
TOTAL ECONOMIC BENEFITS	**240.00**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	32.00
Shadow Skilled Citizen Wages	0.00
Other Citizen Wages	0.00
Other Domestic Economic Costs - Variable	0.00
Other Domestic Economic Costs - Operating Overhead	0.18
SUBTOTAL DOMESTIC COMPONENT	32.18
TRADABLE COMPONENT	
Raw Material Purchases	0.00
Other Tradable Economic Costs - Variable	175.00
Other Tradable Economic Costs - Operating Overhead	0.00
SUBTOTAL TRADABLE COMPONENT	175.00
TOTAL ECONOMIC COSTS	**207.18**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**32.82**
NET VALUE ADDED (After Deducting Depreciation)	**32.18**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	847.73%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	831.06%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	3.87

TABLE 12G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 12G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		3.52						3.52				
Phased Expenditure		3.52	0.00	0.00	0.00	0.00	0.00	3.52	0.00	0.00	0.00	0.00
Depreciation		0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59	0.59
Residual Value		3.52	2.93	2.35	1.76	1.17	0.59	3.52	2.93	2.35	1.76	1.17
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
NON-DEPRECIABLE ASSETS												
Total Working Capital		0	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		3.52	0.00	0.00	0.00	0.00	0.00	3.52	0.00	0.00	0.00	0.00
Total Financial Value		3.52	0.00	0.00	0.00	0.00	0.00	3.52	0.00	0.00	0.00	0.00
Total Economic Value		3.87	0.00	0.00	0.00	0.00	0.00	3.87	0.00	0.00	0.00	0.00
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		3.52	2.93	2.35	1.76	1.17	0.59	3.52	2.93	2.35	1.76	1.17
Total Financial Value		3.52	2.93	2.35	1.76	1.17	0.59	3.52	2.93	2.35	1.76	1.17
Total Economic Value		3.87	3.23	2.58	1.94	1.29	0.65	3.87	3.23	2.58	1.94	1.29

TABLE 12I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	3.52	0.00	0.00	0.00	0.00	0.00
Variable Expenditure	0.00	87.50	131.25	175.00	175.00	175.00
Overhead Expenditures	0.00	32.09	48.13	64.18	64.18	64.18
TOTAL EXPENDITUR	**3.52**	**119.59**	**179.38**	**239.18**	**239.18**	**239.18**
INCOME						
Gross Income	0.00	120.00	180.00	240.00	240.00	240.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.59
TOTAL INCOME	**0.00**	**120.00**	**180.00**	**240.00**	**240.00**	**240.59**
NET BENEFIT(-COST)	**-3.52**	**0.41**	**0.62**	**0.82**	**0.82**	**1.41**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	-0.17
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	4.37%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.00
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.01

TABLE 12J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	3.52	0.00	0.00	0.00	0.00	0.00	3.52	0.00	0.00	0.00	0.00
Variable Expenditure	0.00	87.50	131.25	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00
Overhead Expenditures	0.00	32.09	48.13	64.18	64.18	64.18	64.18	64.18	64.18	64.18	64.18
TOTAL EXPENDITUR	**3.52**	**119.59**	**179.38**	**239.18**	**239.18**	**239.18**	**242.70**	**239.18**	**239.18**	**239.18**	**239.18**
INCOME											
Gross Income	0.00	120.00	180.00	240.00	240.00	240.00	240.00	240.00	240.00	240.00	240.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17
TOTAL INCOME	**0.00**	**120.00**	**180.00**	**240.00**	**240.00**	**240.00**	**240.00**	**240.00**	**240.00**	**240.00**	**241.17**
NET BENEFIT(-COST)	**-3.52**	**0.41**	**0.62**	**0.82**	**0.82**	**0.82**	**-2.70**	**0.82**	**0.82**	**0.82**	**2.00**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	0.14
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	6.75%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.00
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.04

TABLE 12K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	3.87	0.00	0.00	0.00	0.00	0.00
Unskilled Citizen Wages	0.00	16.00	24.00	32.00	32.00	32.00
Skilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Overhead	0.00	0.18	0.18	0.18	0.18	0.18
Raw Materials Costs	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Variable	0.00	87.50	131.25	175.00	175.00	175.00
Other Tradable Costs - Overhead	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**3.87**	**103.68**	**155.43**	**207.18**	**207.18**	**207.18**
ECONOMIC BENEFITS						
Gross Income	0.00	120.00	180.00	240.00	240.00	240.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.65
TOTAL BENEFITS	**0.00**	**120.00**	**180.00**	**240.00**	**240.00**	**240.65**
NET BENEFIT(-COST)	**-3.87**	**16.32**	**24.57**	**32.82**	**32.82**	**33.47**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	105.63
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	465.77%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.15
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	31.71

TABLE 12L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 1	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	3.87	0.00	0.00	0.00	0.00	0.00	3.87	0.00	0.00	0.00	0.00
Unskilled Citizen Wages	0.00	16.00	24.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00	32.00
Skilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Overhead	0.00	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
Raw Materials Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Variable	0.00	87.50	131.25	175.00	175.00	175.00	175.00	175.00	175.00	175.00	175.00
Other Tradable Costs - Overhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**3.87**	**103.68**	**155.43**	**207.18**	**207.18**	**207.18**	**211.05**	**207.18**	**207.18**	**207.18**	**207.18**
ECONOMIC BENEFITS											
Gross Income	0.00	120.00	180.00	240.00	240.00	240.00	240.00	240.00	240.00	240.00	240.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29
TOTAL BENEFITS	**0.00**	**120.00**	**180.00**	**240.00**	**240.00**	**240.00**	**240.00**	**240.00**	**240.00**	**240.00**	**241.29**
NET BENEFIT(-COST)	**-3.87**	**16.32**	**24.57**	**32.82**	**32.82**	**32.82**	**28.95**	**32.82**	**32.82**	**32.82**	**34.11**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	200.75
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	465.88%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.15
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	59.32

FINANCIAL/ECONOMIC STATIC MODEL S-13: HUT BUILDING ENTERPRISE

TABLE 13A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	0	0	0	0	40	0	0	0
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**0**	**0**		**0**	**0**	**0**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	0	0	0	0	6	0	0	0
Office Equipment	0	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
Sickle or trowel	1.00	4.00	4.00	4.40	6	0.92	0.67	0.73
Knife	0.50	4.00	2.00	2.20	6	0.46	0.33	0.37
CONTINGENCY @ 10%			0.60	0.66	6	0.14	0.10	0.11
Subtotal Tradable			6.60	7.26		1.52	1.10	1.21
SUBTOTAL MOVABLE CAPITAL			**6.60**	**7.26**		**1.52**	**1.10**	**1.21**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			0	0	0			
Overhead			0	0	0			
SUBTOTAL WORKING CAPITAL			**0**	**0**	**0**			
TOTAL			**6.60**	**7.26**	**0.00**	**1.52**	**1.10**	**1.21**

FINANCIAL/ECONOMIC STATIC MODEL S-13: HUT BUILDING ENTERPRISE

TABLE 13B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
SERVICE				
Domestic Items				
Work per hut -- either building walls or thatching roof	6	30.00	180.00	180.00
Subtotal Domestic			180.00	180.00
GROSS INCOME			**180.00**	**180.00**

TABLE 13C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			0	0
General Office Expenses			0	0
Printing/Stationary			0	0
Postage			0	0
Staff Training			0	0
Telephone			0	0
Utilities			0	0
Subtotal Domestic			0	0
Tradable Items				
RAW MATERIALS				
None			0	0
None			0	0
MARKETING COSTS				
Advertising/Promotion			0	0
Packaging			0	0
Travel/Transportation			0	0
Subtotal Tradable			0	0
TOTAL VARIABLE EXPENDITURE			**0**	**0**

TABLE 13D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	0	0	0	0
Skilled (Technically)	1	174.00	174.00	156.60
Unskilled	0	0	0	0
OTHER COSTS				
Accounting Fees			0	0
Administration			0	0
Auditors Remuneration			0	0
Insurance			0	0
Maintenance/Repairs			0.33	0.33
Trading Licenses			0	0
Subtotal Domestic			174.33	156.93
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**174.33**	**156.93**

FINANCIAL/ECONOMIC STATIC MODEL S-13: HUT BUILDING ENTERPRISE

TABLE 13E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	6.60
GROSS INCOME	180.00
VARIABLE COSTS	0.00
GROSS MARGIN	180.00
OVERHEAD COSTS	
Overhead Operating Costs	174.33
Loan Amortisation and Interest	0.00
Provisions for Capital Replacement (Depreciation)	1.10
Interest on Working Capital	0.00
Rental	0.00
TOTAL OVERHEAD COSTS	175.43
ANNUAL NET CASH INCOME	**4.57**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	69.24%

TABLE 13F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	0.00
Tradable Component	7.26
TOTAL ECONOMIC VALUE	**7.26**
ECONOMIC BENEFITS	
Gross Income	180.00
TOTAL ECONOMIC BENEFITS	**180.00**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	0.00
Shadow Skilled Citizen Wages	156.60
Other Citizen Wages	0.00
Other Domestic Economic Costs - Variable	0.00
Other Domestic Economic Costs - Operating Overhead	0.33
SUBTOTAL DOMESTIC COMPONENT	156.93
TRADABLE COMPONENT	
Raw Material Purchases	0.00
Other Tradable Economic Costs - Variable	0.00
Other Tradable Economic Costs - Operating Overhead	0.00
SUBTOTAL TRADABLE COMPONENT	0.00
TOTAL ECONOMIC COSTS	**156.93**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**23.07**
NET VALUE ADDED (After Deducting Depreciation)	**21.86**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	317.77%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	301.10%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	7.26

TABLE 13G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 13G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		6.60						6.60				
Phased Expenditure		6.60	0.00	0.00	0.00	0.00	0.00	6.60	0.00	0.00	0.00	0.00
Depreciation		1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Residual Value		6.60	5.50	4.40	3.30	2.20	1.10	6.60	5.50	4.40	3.30	2.20
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
NON-DEPRECIABLE ASSETS												
Total Working Capital		0	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		6.60	0.00	0.00	0.00	0.00	0.00	6.60	0.00	0.00	0.00	0.00
Total Financial Value		6.60	0.00	0.00	0.00	0.00	0.00	6.60	0.00	0.00	0.00	0.00
Total Economic Value		7.26	0.00	0.00	0.00	0.00	0.00	7.26	0.00	0.00	0.00	0.00
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		6.60	5.50	4.40	3.30	2.20	1.10	6.60	5.50	4.40	3.30	2.20
Total Financial Value		6.60	5.50	4.40	3.30	2.20	1.10	6.60	5.50	4.40	3.30	2.20
Total Economic Value		7.26	6.05	4.84	3.63	2.42	1.21	7.26	6.05	4.84	3.63	2.42

TABLE 13I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	6.60	0.00	0.00	0.00	0.00	0.00
Variable Expenditure	0.00	0.00	0.00	0.00	0.00	0.00
Overhead Expenditures	0.00	87.17	130.75	174.33	174.33	174.33
TOTAL EXPENDITUR	**6.60**	**87.17**	**130.75**	**174.33**	**174.33**	**174.33**
INCOME						
Gross Income	0.00	90.00	135.00	180.00	180.00	180.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	1.10
TOTAL INCOME	**0.00**	**90.00**	**135.00**	**180.00**	**180.00**	**181.10**
NET BENEFIT(-COST)	**-6.60**	**2.83**	**4.25**	**5.67**	**5.67**	**6.77**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	13.37
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	57.36%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.02
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	3.34

TABLE 13J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	6.60	0.00	0.00	0.00	0.00	0.00	0.00	6.60	0.00	0.00	0.00
Variable Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overhead Expenditures	0.00	87.17	130.75	174.33	174.33	174.33	174.33	174.33	174.33	174.33	174.33
TOTAL EXPENDITUR	**6.60**	**87.17**	**130.75**	**174.33**	**174.33**	**174.33**	**174.33**	**180.93**	**174.33**	**174.33**	**174.33**
INCOME											
Gross Income	0.00	90.00	135.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.20
TOTAL INCOME	**0.00**	**90.00**	**135.00**	**180.00**	**180.00**	**180.00**	**180.00**	**180.00**	**180.00**	**180.00**	**182.20**
NET BENEFIT(-COST)	**-6.60**	**2.83**	**4.25**	**5.67**	**5.67**	**5.67**	**5.67**	**-0.93**	**5.67**	**5.67**	**7.87**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	26.45
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	61.77%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.02
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	-5.56

TABLE 13K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	7.26	0.00	0.00	0.00	0.00	0.00
Unskilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Skilled Citizen Wages	0.00	78.30	117.45	156.60	156.60	156.60
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Overhead	0.00	0.33	0.33	0.33	0.33	0.33
Raw Materials Costs	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Overhead	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**7.26**	**78.63**	**117.78**	**156.93**	**156.93**	**156.93**
ECONOMIC BENEFITS						
Gross Income	0.00	90.00	135.00	180.00	180.00	180.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	1.21
TOTAL BENEFITS	**0.00**	**90.00**	**135.00**	**180.00**	**180.00**	**181.21**
NET BENEFIT(-COST)	**-7.26**	**11.37**	**17.22**	**23.07**	**23.07**	**24.28**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	70.36
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	192.27%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.13
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	11.95

TABLE 13L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	7.26	0.00	0.00	0.00	0.00	0.00	7.26	0.00	0.00	0.00	0.00
Unskilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Skilled Citizen Wages	0.00	78.30	117.45	156.60	156.60	156.60	156.60	156.60	156.60	156.60	156.60
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Overhead	0.00	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
Raw Materials Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Overhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**7.26**	**78.63**	**117.78**	**156.93**	**156.93**	**156.93**	**164.19**	**156.93**	**156.93**	**156.93**	**156.93**
ECONOMIC BENEFITS											
Gross Income	0.00	90.00	135.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.42
TOTAL BENEFITS	**0.00**	**90.00**	**135.00**	**180.00**	**180.00**	**180.00**	**180.00**	**180.00**	**180.00**	**180.00**	**182.42**
NET BENEFIT(-COST)	**-7.26**	**11.37**	**17.22**	**23.07**	**23.07**	**23.07**	**15.81**	**23.07**	**23.07**	**23.07**	**25.49**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	134.46
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	193.16%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.13
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	21.87

FINANCIAL/ECONOMIC STATIC MODEL S-14: VELD PRODUCTS ENTERPRISE

TABLE 14A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	0	0	0	0	40	0	0	0
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**0**	**0**		**0**	**0**	**0**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	0	0	0	0	6	0	0	0
Office Equipment	0	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
Spade	1.00	25.00	25.00	27.50	6	5.74	4.17	4.58
Knife	0.70	4.00	2.80	3.08	6	0.64	0.47	0.51
CONTINGENCY @ 10%			2.78	3.06	6	0.64	0.46	0.51
Subtotal Tradable			30.58	33.64		7.02	5.10	5.61
SUBTOTAL MOVABLE CAPITAL			**30.58**	**33.64**		**7.02**	**5.10**	**5.61**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			0	0	0			
Overhead			0	0	0			
SUBTOTAL WORKING CAPITAL			**0**	**0**	**0**			
TOTAL			**30.58**	**33.64**	**0.00**	**7.02**	**5.10**	**5.61**

FINANCIAL/ECONOMIC STATIC MODEL S-14: VELD PRODUCTS ENTERPRISE

TABLE 14B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
PRODUCTS				
Tradable Items				
Grapple -- small slices by kg.	80	3.50	280.00	308.00
Subtotal Tradable			280.00	308.00
GROSS INCOME			**280.00**	**308.00**

TABLE 14C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			0	0
General Office Expenses			0	0
Printing/Stationary			0	0
Postage			0	0
Staff Training			0	0
Telephone			0	0
Utilities			0	0
Subtotal Domestic			0	0
Tradable Items				
RAW MATERIALS				
None			0	0
None			0	0
MARKETING COSTS				
Advertising/Promotion			0	0
Packaging			0	0
Travel/Transportation			0	0
Subtotal Tradable			0	0
TOTAL VARIABLE EXPENDITURE			**0**	**0**

TABLE 14D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	0	0	0	0
Skilled (Technically)	0	0.00	0.00	0.00
Unskilled	1	270.00	270.00	135.00
OTHER COSTS				
Accounting Fees			0	0
Administration			0	0
Auditors Remuneration			0	0
Insurance			0	0
Maintenance/Repairs			1.53	1.53
Trading Licenses			0	0
Subtotal Domestic			271.53	136.53
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**271.53**	**136.53**

FINANCIAL/ECONOMIC STATIC MODEL S-14: VELD PRODUCTS ENTERPRISE

TABLE 14E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	30.58
GROSS INCOME	280.00
VARIABLE COSTS	0.00
GROSS MARGIN	280.00
OVERHEAD COSTS	
Overhead Operating Costs	271.53
Loan Amortisation and Interest	0.00
Provisions for Capital Replacement (Depreciation)	5.10
Interest on Working Capital	0.00
Rental	0.00
TOTAL OVERHEAD COSTS	276.63
ANNUAL NET CASH INCOME	**3.37**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEI	11.03%

TABLE 14F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	0.00
Tradable Component	33.64
TOTAL ECONOMIC VALUE	**33.64**
ECONOMIC BENEFITS	
Gross Income	308.00
TOTAL ECONOMIC BENEFITS	**308.00**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	135.00
Shadow Skilled Citizen Wages	0.00
Other Citizen Wages	0.00
Other Domestic Economic Costs - Variable	0.00
Other Domestic Economic Costs - Operating Overhead	1.53
SUBTOTAL DOMESTIC COMPONENT	136.53
TRADABLE COMPONENT	
Raw Material Purchases	0.00
Other Tradable Economic Costs - Variable	0.00
Other Tradable Economic Costs - Operating Overhead	0.00
SUBTOTAL TRADABLE COMPONENT	0.00
TOTAL ECONOMIC COSTS	**136.53**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**171.47**
NET VALUE ADDED (After Deducting Depreciation)	**165.86**

GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	509.75%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	493.09%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	33.64

TABLE 14G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 14G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		30.58						30.58				
Phased Expenditure		30.58	0.00	0.00	0.00	0.00	0.00	30.58	0.00	0.00	0.00	0.00
Depreciation		5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10	5.10
Residual Value		30.58	25.48	20.39	15.29	10.19	5.10	30.58	25.48	20.39	15.29	10.19
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
NON-DEPRECIABLE ASSETS												
Total Working Capital		0	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		30.58	0.00	0.00	0.00	0.00	0.00	30.58	0.00	0.00	0.00	0.00
Total Financial Value		30.58	0.00	0.00	0.00	0.00	0.00	30.58	0.00	0.00	0.00	0.00
Total Economic Value		33.64	0.00	0.00	0.00	0.00	0.00	33.64	0.00	0.00	0.00	0.00
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tradable Component		30.58	25.48	20.39	15.29	10.19	5.10	30.58	25.48	20.39	15.29	10.19
Total Financial Value		30.58	25.48	20.39	15.29	10.19	5.10	30.58	25.48	20.39	15.29	10.19
Total Economic Value		33.64	28.03	22.43	16.82	11.21	5.61	33.64	28.03	22.43	16.82	11.21

TABLE 14I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	30.58	0.00	0.00	0.00	0.00	0.00
Variable Expenditure	0.00	0.00	0.00	0.00	0.00	0.00
Overhead Expenditures	0.00	135.76	203.65	271.53	271.53	271.53
TOTAL EXPENDITURI	**30.58**	**135.76**	**203.65**	**271.53**	**271.53**	**271.53**
INCOME						
Gross Income	0.00	140.00	210.00	280.00	280.00	280.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	5.10
TOTAL INCOME	**0.00**	**140.00**	**210.00**	**280.00**	**280.00**	**285.10**
NET BENEFIT(-COST)	**-30.58**	**4.24**	**6.35**	**8.47**	**8.47**	**13.57**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	2.86
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	9.01%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.00
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	-1.17

TABLE 14J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	30.58	0.00	0.00	0.00	0.00	0.00	30.58	0.00	0.00	0.00	0.00
Variable Expenditure	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Overhead Expenditures	0.00	135.76	203.65	271.53	271.53	271.53	271.53	271.53	271.53	271.53	271.53
TOTAL EXPENDITURI	**30.58**	**135.76**	**203.65**	**271.53**	**271.53**	**271.53**	**302.11**	**271.53**	**271.53**	**271.53**	**271.53**
INCOME											
Gross Income	0.00	140.00	210.00	280.00	280.00	280.00	280.00	280.00	280.00	280.00	280.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.19
TOTAL INCOME	**0.00**	**140.00**	**210.00**	**280.00**	**280.00**	**280.00**	**280.00**	**280.00**	**280.00**	**280.00**	**290.19**
NET BENEFIT(-COST)	**-30.58**	**4.24**	**6.35**	**8.47**	**8.47**	**8.47**	**-22.11**	**8.47**	**8.47**	**8.47**	**18.66**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	9.45
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	11.71%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.01
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.41

TABLE 14K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	33.64	0.00	0.00	0.00	0.00	0.00
Unskilled Citizen Wages	0.00	67.50	101.25	135.00	135.00	135.00
Skilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Overhead	0.00	1.53	1.53	1.53	1.53	1.53
Raw Materials Costs	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Overhead	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**33.64**	**69.03**	**102.78**	**136.53**	**136.53**	**136.53**
ECONOMIC BENEFITS						
Gross Income	0.00	154.00	231.00	308.00	308.00	308.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	5.61
TOTAL BENEFITS	**0.00**	**154.00**	**231.00**	**308.00**	**308.00**	**313.61**
NET BENEFIT(-COST)	**-33.64**	**84.97**	**128.22**	**171.47**	**171.47**	**177.08**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	540.33
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	293.14%
BENEFIT/COST RATIO (B/C) @ 6%	=	2.11
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	19.11

TABLE 14L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	33.64	0.00	0.00	0.00	0.00	0.00	33.64	0.00	0.00	0.00	0.00
Unskilled Citizen Wages	0.00	67.50	101.25	135.00	135.00	135.00	135.00	135.00	135.00	135.00	135.00
Skilled Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Citizen Wages	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Domestic Costs - Overhead	0.00	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53	1.53
Raw Materials Costs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Variable	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Tradable Costs - Overhead	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL COSTS	**33.64**	**69.03**	**102.78**	**136.53**	**136.53**	**136.53**	**170.17**	**136.53**	**136.53**	**136.53**	**136.53**
ECONOMIC BENEFITS											
Gross Income	0.00	154.00	231.00	308.00	308.00	308.00	308.00	308.00	308.00	308.00	308.00
Asset Residual Value	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.21
TOTAL BENEFITS	**0.00**	**154.00**	**231.00**	**308.00**	**308.00**	**308.00**	**308.00**	**308.00**	**308.00**	**308.00**	**319.21**
NET BENEFIT(-COST)	**-33.64**	**84.97**	**128.22**	**171.47**	**171.47**	**171.47**	**137.83**	**171.47**	**171.47**	**171.47**	**182.68**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	1029.11
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	293.50%
BENEFIT/COST RATIO (B/C) @ 6%	=	2.13
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	35.44

FINANCIAL/ECONOMIC STATIC MODEL S-15: HUNTING ENTERPRISE

TABLE 15A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings --								
Storeroom	1	28500	28500	28500	40	3348	713	713
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			1425	1425	40	187	36	36
Subtotal Domestic			29925	29925		3535	748	748
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**29925**	**29925**		**3535**	**748**	**748**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES/TRANSPORT								
4WD Pickup Truck	1	50000	50000	55000	4	15774	12500	13750
Horses	2	800	1600	1760	6	367	267	293
Donkeys	5	80	400	440	6	92	67	73
BASIC EQUIPMENT								
Tools/Camping Equipment	1	5000	5000	5500	6	1148	833	917
Rifles	5	1600	8000	8800	6	1837	1333	1467
Saddles/pack gear	7	450	3150	3465	6	723	525	578
PRODUCTION EQUIPMENT								
Butchering & biltong-making equipment	1	200	200	220	6	46	33	37
200l water drums	2	85	170	187	6	39	28	31
CONTINGENCY @ 10%			6852	7537	6	1573	1142	1256
Subtotal Tradable			75372	82909		21599	16729	18402
SUBTOTAL MOVABLE CAPITAL			**75372**	**82909**		**21599**	**16729**	**18402**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			3556	3670	533			
Overhead			10025	7973	1504			
SUBTOTAL WORKING CAPITAL			**13581**	**11643**	**2037**			
TOTAL			**118878**	**124477**	**2037**	**25134**	**17477**	**19150**

FINANCIAL/ECONOMIC STATIC MODEL S-15: HUNTING ENTERPRISE

TABLE 15B: SALES AT FULL PRODUCTION

Item		Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
ITEM					
Tradable Items					
SAFARI HUNTING TROPHY FEES		No.			
Big cats		4	4988	19953	21948
Eland		1	1663	1663	1829
Gemsbok		9	1247	11224	12346
Hartebeest		4	998	3991	4390
Kudu		1	1330	1330	1463
Ostrich		4	499	1995	2195
Small Animals		0	166	0	0
Springbok		10	416	4157	4573
Steenbok/duiker		4	125	501	551
Wildebeest		2	831	1663	1829
Subtotal -- Safari Trophy Fees		39		46476	51124
MEAT (BILTONG)	No.	Kgs.			
Big cats	0	0	7.40	0	0
Eland	2	120	7.40	888	977
Gemsbok	33	800	7.40	5920	6512
Hartebeest	70	1400	7.40	10360	11396
Kudu	2	60	7.40	444	488
Ostrich	14	100	7.40	740	814
Small Animals	100	0	7.40	0	0
Springbok	50	1300	7.40	9620	10582
Steenbok/duiker	25	85	7.40	629	692
Wildebeest	4	100	7.40	740	814
Subtotal -- Meat	300	3965		29341	32275
SALTED/DRIED HIDES					
Large-medium animal	200		50.00	10000	11000
Small animal	100		8.00	800	880
Subtotal -- Hides				10800	11880
Subtotal Tradable				86617	95279
GROSS INCOME				**86617**	**95279**

FINANCIAL/ECONOMIC STATIC MODEL S-15: HUNTING ENTERPRISE

TABLE 15C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences	200	6	1200	1200
OTHER COSTS				
Bank Fees			0	0
General Office Expenses			0	0
Printing/Stationary			0	0
Postage			0	0
Staff Training			0	0
Telephone			0	0
Utilities			0	0
Vet & Med. Costs			350	350
Subtotal Domestic			1550	1550
Tradable Items				
PRODUCTION COSTS				
Ammunition	480	2.40	1152	1267
Fodder & supplements			1000	1100
Salt (for skins)			100	110
Biltong-making spices			850	935
Travel/Transportation			3000	3000
MARKETING COSTS				
Advertising/Promotion			500	550
Packaging			200	220
Travel/Transportation			3500	3500
Subtotal Tradable			10302	10682
TOTAL VARIABLE EXPENDITURE			**11852**	**12232**

TABLE 15D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	1	11400	11400	11400
Skilled (Technically)	0	0	0	0
Unskilled	9	1520	13680	6840
OTHER COSTS				
Accounting Fees			0	0
Administration			500	500
Auditors Remuneration			0	0
Insurance			3769	3769
Maintenance/Repairs			4068	4068
Trading Licenses			0	0
Subtotal Domestic			33416	26576
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**33416**	**26576**

TABLE 15E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	118878
GROSS INCOME	86617
VARIABLE COSTS	11852
GROSS MARGIN	74765
OVERHEAD COSTS	
Overhead Operating Costs	33416
Loan Amortisation and Interest	6284
Provisions for Capital Replacement (Depreciation)	17477
Interest on Working Capital	2037
Rental	14400
TOTAL OVERHEAD COSTS	73614
ANNUAL NET CASH INCOME	**1151**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	0.97%

TABLE 15F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	29925
Tradable Component	94552
TOTAL ECONOMIC VALUE	**124477**
ECONOMIC BENEFITS	
Gross Income	95279
TOTAL ECONOMIC BENEFITS	**95279**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	6840
Shadow Skilled Citizen Wages	0
Other Citizen Wages	11400
Other Domestic Economic Costs - Variable	1550
Other Domestic Economic Costs - Operating Overhead	8336
SUBTOTAL DOMESTIC COMPONENT	28126
TRADABLE COMPONENT	
Raw Material Purchases	3412
Other Tradable Economic Costs - Variable	7270
Other Tradable Economic Costs - Operating Overhead	0
SUBTOTAL TRADABLE COMPONENT	10682
TOTAL ECONOMIC COSTS	**38809**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**56470**
NET VALUE ADDED (After Deducting Depreciation)	**37320**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	45.37%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	29.98%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	12448

TABLE 15G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		29925										
Phased Expenditure		29925	0	0	0	0	0	0	0	0	0	0
Depreciation		748	748	748	748	748	748	748	748	748	748	748
Residual Value		29925	29177	28429	27681	26933	26184	25436	24688	23940	23192	22444
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Notes: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 15G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		25372						25372				
Phased Expenditure		12686	12686	0	0	0	0	12686	12686	0	0	0
Depreciation		2114	4229	4229	4229	4229	4229	4229	4229	4229	4229	4229
Residual Value		12686	23258	19029	14800	10572	6343	14800	23258	19029	14800	10572
"4 YEAR" ITEMS	4											
Total Expenditure		50000				50000				50000	0	0
Phased Expenditure		50000	0	0	0	50000	0	0	0	50000	0	0
Depreciation		12500	12500	12500	12500	12500	12500	12500	12500	12500	12500	12500
Residual Value		50000	37500	25000	12500	50000	37500	25000	12500	50000	37500	25000
NON-DEPRECIABLE ASSETS												
Total Working Capital		13581	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		6790	6790	0	0	0	0	6790	6790	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		29925	0	0	0	0	0	0	0	0	0	0
Tradable Component		62686	12686	0	0	50000	0	12686	12686	50000	0	0
Total Financial Value		92611	12686	0	0	50000	0	12686	12686	50000	0	0
Total Economic Value		98880	13955	0	0	55000	0	13955	13955	55000	0	0
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		29925	29177	28429	27681	26933	26184	25436	24688	23940	23192	22444
Tradable Component		62686	60758	44029	27300	60572	43843	39800	35758	69029	52300	35572
Total Financial Value		92611	89935	72458	54981	87504	70027	65237	60446	92969	75492	58015
Total Economic Value		98880	96010	76861	57711	93561	74412	69217	64022	99872	80722	61573

FINANCIAL/ECONOMIC DYNAMIC MODEL D-15: HUNTING ENTERPRISE

TABLE 15I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	92611	12686	0	0	50000	0
Variable Expenditure	0	5926	8889	11852	11852	11852
Overhead Expenditures	0	23908	35862	47816	47816	47816
TOTAL EXPENDITURES	**92611**	**42520**	**44751**	**59668**	**109668**	**59668**
INCOME						
Gross Income	0	43309	64963	86617	86617	86617
Asset Residual Value	0	0	0	0	0	70027
TOTAL INCOME	**0**	**43309**	**64963**	**86617**	**86617**	**156644**
NET BENEFIT(-COST)	**-92611**	**788**	**20211**	**26949**	**-23051**	**96976**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	2787
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	6.81%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.01
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.03

TABLE 15J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	92611	12686	0	0	50000	0	12686	12686	50000	0	0
Variable Expenditure	0	5926	8889	11852	11852	11852	11852	11852	11852	11852	11852
Overhead Expenditures	0	23908	35862	47816	47816	47816	47816	47816	47816	47816	47816
TOTAL EXPENDITURES	**92611**	**42520**	**44751**	**59668**	**109668**	**59668**	**72354**	**72354**	**109668**	**59668**	**59668**
INCOME											
Gross Income	0	43309	64963	86617	86617	86617	86617	86617	86617	86617	86617
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	58015
TOTAL INCOME	**0**	**43309**	**64963**	**86617**	**86617**	**86617**	**86617**	**86617**	**86617**	**86617**	**144632**
NET BENEFIT(-COST)	**-92611**	**788**	**20211**	**26949**	**-23051**	**26949**	**14263**	**14263**	**-23051**	**26949**	**84964**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	18017
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	9.03%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.03
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.21

TABLE 15K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	98880	13955	0	0	55000	0
Unskilled Citizen Wages	0	3420	5130	6840	6840	6840
Skilled Citizen Wages	0	0	0	0	0	0
Other Citizen Wages	0	11400	11400	11400	11400	11400
Other Domestic Costs - Variable	0	775	1163	1550	1550	1550
Other Domestic Costs - Overhead	0	8336	8336	8336	8336	8336
Raw Materials Costs	0	1706	2559	3412	3412	3412
Other Tradable Costs - Variable	0	3635	5453	7270	7270	7270
Other Tradable Costs - Overhead	0	0	0	0	0	0
TOTAL COSTS	**98880**	**43227**	**34041**	**38809**	**93809**	**38809**
ECONOMIC BENEFITS						
Gross Income	0	47639	71459	95279	95279	95279
Asset Residual Value	0	0	0	0	0	74412
TOTAL BENEFITS	**0**	**47639**	**71459**	**95279**	**95279**	**169690**
NET BENEFIT(-COST)	**-98880**	**4412**	**37418**	**56470**	**1470**	**130882**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	80156
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	25.35%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.28
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.97

TABLE 15L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	98880	13955	0	0	55000	0	13955	13955	55000	0	0
Unskilled Citizen Wages	0	3420	5130	6840	6840	6840	6840	6840	6840	6840	6840
Skilled Citizen Wages	0	0	0	0	0	0	0	0	0	0	0
Other Citizen Wages	0	11400	11400	11400	11400	11400	11400	11400	11400	11400	11400
Other Domestic Costs - Variable	0	775	1163	1550	1550	1550	1550	1550	1550	1550	1550
Other Domestic Costs - Overhead	0	8336	8336	8336	8336	8336	8336	8336	8336	8336	8336
Raw Materials Costs	0	1706	2559	3412	3412	3412	3412	3412	3412	3412	3412
Other Tradable Costs - Variable	0	3635	5453	7270	7270	7270	7270	7270	7270	7270	7270
Other Tradable Costs - Overhead	0	0	0	0	0	0	0	0	0	0	0
TOTAL COSTS	**98880**	**43227**	**34041**	**38809**	**93809**	**38809**	**52763**	**52763**	**93809**	**38809**	**38809**
ECONOMIC BENEFITS											
Gross Income	0	47639	71459	95279	95279	95279	95279	95279	95279	95279	95279
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	61573
TOTAL BENEFITS	**0**	**47639**	**71459**	**95279**	**95279**	**95279**	**95279**	**95279**	**95279**	**95279**	**156851**
NET BENEFIT(-COST)	**-98880**	**4412**	**37418**	**56470**	**1470**	**56470**	**42516**	**42516**	**1470**	**56470**	**118043**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	177235
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	29.34%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.39
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	3.07

FINANCIAL/ECONOMIC STATIC MODEL S-16: SEWING ENTERPRISE

TABLE 16A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	0	0	0	0	40	0	0	0
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**0**	**0**		**0**	**0**	**0**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	1	5000	5000	5500	6	1148	833	917
Office Equipment	1	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
Sewing machines	4	2400	9600	10560	6	2204	1600	1760
Sewing machines	2	500	1000	1100	6	230	167	183
Production tables	2	100	200	220	6	46	33	37
Misc. Accessories	1	300	300	330	6	69	50	55
CONTINGENCY @ 10%			1610	1771	6	370	268	295
Subtotal Tradable			17710	19481		4066	2952	3247
SUBTOTAL MOVABLE CAPITAL			**17710**	**19481**		**4066**	**2952**	**3247**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			3330	3614	500			
Overhead			6945	6419	1042			
SUBTOTAL WORKING CAPITAL			**10275**	**10032**	**1541**			
TOTAL			**27985**	**29513**	**1541**	**4066**	**2952**	**3247**

FINANCIAL/ECONOMIC STATIC MODEL S-16: SEWING ENTERPRISE

TABLE 16B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
CRAFTS				
Tradable Items				
Sewn goods			38000	41800
Subtotal Tradable			38000	41800
GROSS INCOME			**38000**	**41800**

TABLE 16C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			100	100
General Office Expenses			300	300
Printing/Stationary			250	250
Postage			100	100
Staff Training			0	0
Telephone			400	400
Utilities			500	500
Subtotal Domestic			1650	1650
Tradable Items				
RAW MATERIALS				
Cloth			8000	8800
Misc.			500	550
MARKETING COSTS				
Advertising/Promotion			300	330
Packaging			150	165
Travel/Transportation			500	550
Subtotal Tradable			9450	10395
TOTAL VARIABLE EXPENDITURE			**11100**	**12045**

TABLE 16D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	1	4320	4320	4320
Skilled (Technically)	6	2760	16560	14904
Unskilled	0	0	0	0
OTHER COSTS				
Accounting Fees			0	0
Administration			400	400
Auditors Remuneration			0	0
Insurance			886	886
Maintenance/Repairs			886	886
Trading Licenses			100	0
Subtotal Domestic			23151	21395
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**23151**	**21395**

FINANCIAL/ECONOMIC STATIC MODEL S-16: SEWING ENTERPRISE

TABLE 16E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	27985
GROSS INCOME	38000
VARIABLE COSTS	11100
GROSS MARGIN	26900
OVERHEAD COSTS	
Overhead Operating Costs	23151
Loan Amortisation and Interest	0
Provisions for Capital Replacement (Depreciation)	2952
Interest on Working Capital	1541
Rental	1200
TOTAL OVERHEAD COSTS	28844
ANNUAL NET CASH INCOME	**-1944**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEI	-6.95%

TABLE 16F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	0
Tradable Component	29513
TOTAL ECONOMIC VALUE	**29513**
ECONOMIC BENEFITS	
Gross Income	41800
TOTAL ECONOMIC BENEFITS	**41800**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	0
Shadow Skilled Citizen Wages	14904
Other Citizen Wages	4320
Other Domestic Economic Costs - Variable	1650
Other Domestic Economic Costs - Operating Overhead	2171
SUBTOTAL DOMESTIC COMPONENT	23045
TRADABLE COMPONENT	
Raw Material Purchases	9350
Other Tradable Economic Costs - Variable	1045
Other Tradable Economic Costs - Operating Overhead	0
SUBTOTAL TRADABLE COMPONENT	10395
TOTAL ECONOMIC COSTS	**33440**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**8360**
NET VALUE ADDED (After Deducting Depreciation)	**5113**

GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	28.33%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	17.33%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	4216

TABLE 16G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 16G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		17710						17710				
Phased Expenditure		8855	8855	0	0	0	0	8855	8855	0	0	0
Depreciation		1476	2952	2952	2952	2952	2952	2952	2952	2952	2952	2952
Residual Value		8855	16234	13283	10331	7379	4428	10331	16234	13283	10331	7379
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
NON-DEPRECIABLE ASSETS												
Total Working Capital		10275	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		5138	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		0	0	0	0	0	0	0	0	0	0	0
Tradable Component		8855	8855	0	0	0	0	8855	8855	0	0	0
Total Financial Value		8855	8855	0	0	0	0	8855	8855	0	0	0
Total Economic Value		9741	9741	0	0	0	0	9741	9741	0	0	0
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		0	0	0	0	0	0	0	0	0	0	0
Tradable Component		8855	16234	13283	10331	7379	4428	10331	16234	13283	10331	7379
Total Financial Value		8855	16234	13283	10331	7379	4428	10331	16234	13283	10331	7379
Total Economic Value		9741	17858	14611	11364	8117	4870	11364	17858	14611	11364	8117

TABLE 16I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	8855	8855	0	0	0	0
Variable Expenditure	0	5550	8325	11100	11100	11100
Overhead Expenditures	0	24351	24351	24351	24351	24351
TOTAL EXPENDITUR	**8855**	**38756**	**32676**	**35451**	**35451**	**35451**
INCOME						
Gross Income	0	19000	28500	38000	38000	38000
Asset Residual Value	0	0	0	0	0	4428
TOTAL INCOME	**0**	**19000**	**28500**	**38000**	**38000**	**42428**
NET BENEFIT(-COST	**-8855**	**-19756**	**-4176**	**2549**	**2549**	**6977**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	-20601
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	-24.57%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.86
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	0.36

TABLE 16J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	8855	8855	0	0	0	0	8855	8855	0	0	
Variable Expenditure	0	5550	8325	11100	11100	11100	11100	11100	11100	11100	11100
Overhead Expenditures	0	24351	24351	24351	24351	24351	24351	24351	24351	24351	24351
TOTAL EXPENDITUR	**8855**	**38756**	**32676**	**35451**	**35451**	**35451**	**44306**	**44306**	**35451**	**35451**	**35451**
INCOME											
Gross Income	0	19000	28500	38000	38000	38000	38000	38000	38000	38000	38000
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	7379
TOTAL INCOME	**0**	**19000**	**28500**	**38000**	**38000**	**38000**	**38000**	**38000**	**38000**	**38000**	**45379**
NET BENEFIT(-COST	**-8855**	**-19756**	**-4176**	**2549**	**2549**	**2549**	**-6306**	**-6306**	**2549**	**2549**	**9928**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	-23710
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	-12.56%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.91
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	-0.22

TABLE 16K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	9741	9741	0	0	0	0
Unskilled Citizen Wages	0	0	0	0	0	0
Skilled Citizen Wages	0	14904	14904	14904	14904	14904
Other Citizen Wages	0	4320	4320	4320	4320	4320
Other Domestic Costs - Variable	0	825	1238	1650	1650	1650
Other Domestic Costs - Overhead	0	2171	2171	2171	2171	2171
Raw Materials Costs	0	4675	7013	9350	9350	9350
Other Tradable Costs - Variable	0	523	784	1045	1045	1045
Other Tradable Costs - Overhead	0	0	0	0	0	0
TOTAL COSTS	**9741**	**37158**	**30429**	**33440**	**33440**	**33440**
ECONOMIC BENEFITS						
Gross Income	0	20900	31350	41800	41800	41800
Asset Residual Value	0	0	0	0	0	4870
TOTAL BENEFITS	**0**	**20900**	**31350**	**41800**	**41800**	**46670**
NET BENEFIT(-COST)	**-9741**	**-16258**	**921**	**8360**	**8360**	**13230**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	-689
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	5.09%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.00
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.09

TABLE 16L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	9741	9741	0	0	0	0	9741	9741	0	0	0
Unskilled Citizen Wages	0	0	0	0	0	0	0	0	0	0	0
Skilled Citizen Wages	0	14904	14904	14904	14904	14904	14904	14904	14904	14904	14904
Other Citizen Wages	0	4320	4320	4320	4320	4320	4320	4320	4320	4320	4320
Other Domestic Costs - Variable	0	825	1238	1650	1650	1650	1650	1650	1650	1650	1650
Other Domestic Costs - Overhead	0	2171	2171	2171	2171	2171	2171	2171	2171	2171	2171
Raw Materials Costs	0	4675	7013	9350	9350	9350	9350	9350	9350	9350	9350
Other Tradable Costs - Variable	0	523	784	1045	1045	1045	1045	1045	1045	1045	1045
Other Tradable Costs - Overhead	0	0	0	0	0	0	0	0	0	0	0
TOTAL COSTS	**9741**	**37158**	**30429**	**33440**	**33440**	**33440**	**43181**	**43181**	**33440**	**33440**	**33440**
ECONOMIC BENEFITS											
Gross Income	0	20900	31350	41800	41800	41800	41800	41800	41800	41800	41800
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	8117
TOTAL BENEFITS	**0**	**20900**	**31350**	**41800**	**41800**	**41800**	**41800**	**41800**	**41800**	**41800**	**49917**
NET BENEFIT(-COST)	**-9741**	**-16258**	**921**	**8360**	**8360**	**8360**	**-1381**	**-1381**	**8360**	**8360**	**16477**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	12389
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	14.36%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.05
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.62

FINANCIAL/ECONOMIC STATIC MODEL S-17: BAKERY ENTERPRISE

TABLE 17A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	1	28500	28500	28500	40	3348	713	713
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			1425	1425	40	187	36	36
Subtotal Domestic			29925	29925		3535	748	748
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**29925**	**29925**		**3535**	**748**	**748**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	1	2300	2300	2530	6	528	383	422
Office Equipment	1	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
Oven	2	475	950	1045	6	218	158	174
Bowls, tins, trays	1	1400	1400	1540	6	321	233	257
Misc. accessories	1	200	200	220	6	46	33	37
CONTINGENCY @ 10%			485	534	6	111	81	89
Subtotal Tradable			5335	5869		1225	889	978
SUBTOTAL MOVABLE CAPITAL			**5335**	**5869**		**1225**	**889**	**978**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			0	0	0			
Overhead			0	0	0			
SUBTOTAL WORKING CAPITAL			**0**	**0**	**0**			
TOTAL			**35260**	**35794**	**0**	**4760**	**1637**	**1726**

FINANCIAL/ECONOMIC STATIC MODEL S-17: BAKERY ENTERPRISE

TABLE 17B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
PRODUCTS				
Tradable Items				
Loaves	21600	1.30	28080	30888
Buns	10800	0.15	1620	1782
Subtotal Tradable			29700	32670
GROSS INCOME			**29700**	**32670**

TABLE 17C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			100	100
General Office Expenses			120	120
Printing/Stationary			0	0
Postage			0	0
Staff Training			0	0
Telephone			0	0
Utilities			0	0
Subtotal Domestic			220	220
Tradable Items				
RAW MATERIALS				
Flour, yeast, salt			1400	1540
Firewood			2400	2640
MARKETING COSTS				
Advertising/Promotion			0	0
Packaging	21600	0.05	1080	1188
Travel/Transportation			800	880
Subtotal Tradable			5680	6248
TOTAL VARIABLE EXPENDITURE			**5900**	**6468**

TABLE 17D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	1	6000	6000	6000
Skilled (Technically)	0	0	0	0
Unskilled	2	1680	3360	1680
OTHER COSTS				
Accounting Fees			0	0
Administration			0	0
Auditors Remuneration			0	0
Insurance			0	0
Maintenance/Repairs			566	566
Trading Licenses			0	0
Subtotal Domestic			9926	8246
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**9926**	**8246**

FINANCIAL/ECONOMIC STATIC MODEL S-17: BAKERY ENTERPRISE

TABLE 17E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	35260
GROSS INCOME	29700
VARIABLE COSTS	5900
GROSS MARGIN	23800
OVERHEAD COSTS	
Overhead Operating Costs	9926
Loan Amortisation and Interest	0
Provisions for Capital Replacement (Depreciation)	1637
Interest on Working Capital	0
Rental	0
TOTAL OVERHEAD COSTS	11563
ANNUAL NET CASH INCOME	**12237**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	34.70%

TABLE 17F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	29925
Tradable Component	5869
TOTAL ECONOMIC VALUE	**35794**
ECONOMIC BENEFITS	
Gross Income	32670
TOTAL ECONOMIC BENEFITS	**32670**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	1680
Shadow Skilled Citizen Wages	0
Other Citizen Wages	6000
Other Domestic Economic Costs - Variable	220
Other Domestic Economic Costs - Operating Overhead	566
SUBTOTAL DOMESTIC COMPONENT	8466
TRADABLE COMPONENT	
Raw Material Purchases	4180
Other Tradable Economic Costs - Variable	2068
Other Tradable Economic Costs - Operating Overhead	0
SUBTOTAL TRADABLE COMPONENT	6248
TOTAL ECONOMIC COSTS	**14714**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**17956**
NET VALUE ADDED (After Deducting Depreciation)	**16230**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	50.17%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	45.34%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	11931

TABLE 17G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		5335						5335				
Phased Expenditure		2668	2668	0	0	0	0	2668	2668	0	0	0
Depreciation		445	889	889	889	889	889	889	889	889	889	889
Residual Value		2668	4890	4001	3112	2223	1334	3112	4890	4001	3112	2223
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
NON-DEPRECIABLE ASSETS												
Total Working Capital		0	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		29925	0	0	0	0	0	0	0	0	0	0
Tradable Component		2668	2668	0	0	0	0	2668	2668	0	0	0
Total Financial Value		32593	2668	0	0	0	0	2668	2668	0	0	0
Total Economic Value		32859	2934	0	0	0	0	2934	2934	0	0	0
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		29925	29118	28310	27503	26695	25888	25080	24273	23465	22658	21850
Tradable Component		2668	4890	4001	3112	2223	1334	3112	4890	4001	3112	2223
Total Financial Value		32593	34008	32311	30615	28918	27221	28192	29163	27466	25770	24073
Total Economic Value		32859	34497	32711	30926	29140	27355	28503	29652	27866	26081	24295

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

TABLE 17G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		28500										
Phased Expenditure		28500	0	0	0	0	0	0	0	0	0	0
Depreciation		713	713	713	713	713	713	713	713	713	713	713
Residual Value		28500	27788	27075	26363	25650	24938	24225	23513	22800	22088	21375
"15 YEAR" ITEMS	15											
Total Expenditure		1425										
Phased Expenditure		1425	0	0	0	0	0	0	0	0	0	0
Depreciation		95	95	95	95	95	95	95	95	95	95	95
Residual Value		1425	1330	1235	1140	1045	950	855	760	665	570	475
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 17I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	32593	2668	0	0	0	0
Variable Expenditure	0	2950	4425	5900	5900	5900
Overhead Expenditures	0	9926	9926	9926	9926	9926
TOTAL EXPENDITUR	**32593**	**15544**	**14351**	**15826**	**15826**	**15826**
INCOME						
Gross Income	0	14850	22275	29700	29700	29700
Asset Residual Value	0	0	0	0	0	27221
TOTAL INCOME	**0**	**14850**	**22275**	**29700**	**29700**	**56921**
NET BENEFIT(-COST)	**-32593**	**-694**	**7924**	**13874**	**13874**	**41095**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	25616
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	23.19%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.28
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	2.04

TABLE 17J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	32593	2668	0	0	0	0	2668	2668	0	0	0
Variable Expenditure	0	2950	4425	5900	5900	5900	5900	5900	5900	5900	5900
Overhead Expenditures	0	9926	9926	9926	9926	9926	9926	9926	9926	9926	9926
TOTAL EXPENDITUR	**32593**	**15544**	**14351**	**15826**	**15826**	**15826**	**18494**	**18494**	**15826**	**15826**	**15826**
INCOME											
Gross Income	0	14850	22275	29700	29700	29700	29700	29700	29700	29700	29700
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	24073
TOTAL INCOME	**0**	**14850**	**22275**	**29700**	**29700**	**29700**	**29700**	**29700**	**29700**	**29700**	**53773**
NET BENEFIT(-COST)	**-32593**	**-694**	**7924**	**13874**	**13874**	**13874**	**11207**	**11207**	**13874**	**13874**	**37947**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	56859
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	27.00%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.40
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	3.16

TABLE 17K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	32859	2934	0	0	0	0
Unskilled Citizen Wages	0	1680	1680	1680	1680	1680
Skilled Citizen Wages	0	0	0	0	0	0
Other Citizen Wages	0	6000	6000	6000	6000	6000
Other Domestic Costs - Variable	0	110	165	220	220	220
Other Domestic Costs - Operating O	0	566	566	566	566	566
Raw Materials Costs	0	2090	3135	4180	4180	4180
Other Tradable Costs - Variable	0	1034	1551	2068	2068	2068
Other Tradable Costs - Operating Ov	0	0	0	0	0	0
TOTAL COSTS	**32859**	**14414**	**13097**	**14714**	**14714**	**14714**
ECONOMIC BENEFITS						
Gross Income	0	16335	24503	32670	32670	32670
Asset Residual Value	0	0	0	0	0	27355
TOTAL BENEFITS	**0**	**16335**	**24503**	**32670**	**32670**	**60025**
NET BENEFIT(-COST)	**-32859**	**1921**	**11406**	**17956**	**17956**	**45311**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	39869
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	32.19%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.45
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	2.42

TABLE 17L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	32859	2934	0	0	0	0	2934	2934	0	0	0
Unskilled Citizen Wages	0	1680	1680	1680	1680	1680	1680	1680	1680	1680	1680
Skilled Citizen Wages	0	0	0	0	0	0	0	0	0	0	0
Other Citizen Wages	0	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
Other Domestic Costs - Variable	0	110	165	220	220	220	220	220	220	220	220
Other Domestic Costs - Operating O	0	566	566	566	566	566	566	566	566	566	566
Raw Materials Costs	0	2090	3135	4180	4180	4180	4180	4180	4180	4180	4180
Other Tradable Costs - Variable	0	1034	1551	2068	2068	2068	2068	2068	2068	2068	2068
Other Tradable Costs - Operating Ov	0	0	0	0	0	0	0	0	0	0	0
TOTAL COSTS	**32859**	**14414**	**13097**	**14714**	**14714**	**14714**	**17648**	**17648**	**14714**	**14714**	**14714**
ECONOMIC BENEFITS											
Gross Income	0	16335	24503	32670	32670	32670	32670	32670	32670	32670	32670
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	24295
TOTAL BENEFITS	**0**	**16335**	**24503**	**32670**	**32670**	**32670**	**32670**	**32670**	**32670**	**32670**	**56965**
NET BENEFIT(-COST)	**-32859**	**1921**	**11406**	**17956**	**17956**	**17956**	**15022**	**15022**	**17956**	**17956**	**42251**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	82913
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	35.72%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.61
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	3.90

FINANCIAL/ECONOMIC STATIC MODEL S-18: BLOCKMAKING ENTERPRISE

TABLE 18A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	1	5700	5700	5700	40	670	143	143
Water System	1	7000	7000	7000	15	920	467	467
CONTINGENCY @ 5%			635	635	15	83	42	42
Subtotal Domestic			13335	13335		1673	652	652
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	1	4000	4000	4400	15	526	267	293
CONTINGENCY @ 5%			200	220	15	26	13	15
Subtotal Tradable			4200	4620		552	280	308
SUBTOTAL FIXED CAPITAL			**17535**	**17955**		**2226**	**932**	**960**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	1	14000	14000	15400	4	4417	3500	3850
BASIC EQUIPMENT								
Furniture/Fixtures	1	0	0	0	6	0	0	0
Office Equipment	1	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
Block forms	2	430	860	946	6	197	143	158
Wheelbarrows	2	100	200	220	6	46	33	37
Hose Pipes	2	55	110	121	6	25	18	20
Spades	8	15	120	132	6	28	20	22
CONTINGENCY @ 10%			1529	1682	6	351	255	280
Subtotal Tradable			16819	18501		5064	3970	4367
SUBTOTAL MOVABLE CAPITAL			**16819**	**18501**		**5064**	**3970**	**4367**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			3684	4034	553			
Overhead			6401	5119	960			
SUBTOTAL WORKING CAPITAL			**10084**	**9153**	**1513**			
TOTAL			**44438**	**45609**	**1513**	**7289**	**4901**	**5326**

FINANCIAL/ECONOMIC STATIC MODEL S-18: BLOCKMAKING ENTERPRISE

TABLE 18B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
PRODUCTS				
Tradable Items				
Cement Blocks	132000	1.05	138600	152460
Subtotal Tradable			138600	152460
GROSS INCOME			**138600**	**152460**

TABLE 18C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			400	400
General Office Expenses			0	0
Printing/Stationary			200	200
Postage			0	0
Staff Training			0	0
Telephone			0	0
Utilities			0	0
Subtotal Domestic			600	600
Tradable Items				
RAW MATERIALS				
Cement, incl. delivery (per 25kg. bag)	605	11.70	7079	7786
Sand (labour & transport)			3600	3960
MARKETING COSTS				
Advertising/Promotion			0	0
Packaging			0	0
Travel/Transportation			1000	1100
Subtotal Tradable			11679	12846
TOTAL VARIABLE EXPENDITURE			**12279**	**13446**

TABLE 18D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	1	6000	6000	6000
Skilled (Technically)	4	1680	6720	6048
Unskilled	5	1440	7200	3600
OTHER COSTS				
Accounting Fees			0	0
Administration			400	400
Auditors Remuneration			0	0
Insurance			0	0
Maintenance/Repairs			1016	1016
Trading Licenses			0	0
Subtotal Domestic			21336	17064
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**21336**	**17064**

FINANCIAL/ECONOMIC STATIC MODEL S-18: BLOCKMAKING ENTERPRISE

TABLE 18E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	44438
GROSS INCOME	138600
VARIABLE COSTS	12279
GROSS MARGIN	126322
OVERHEAD COSTS	
Overhead Operating Costs	21336
Loan Amortisation and Interest	0
Provisions for Capital Replacement (Depreciation)	4901
Interest on Working Capital	1513
Rental	0
TOTAL OVERHEAD COSTS	27750
ANNUAL NET CASH INCOME	**98571**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	221.82%

TABLE 18F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	13335
Tradable Component	32274
TOTAL ECONOMIC VALUE	**45609**
ECONOMIC BENEFITS	
Gross Income	152460
TOTAL ECONOMIC BENEFITS	**152460**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	3600
Shadow Skilled Citizen Wages	6048
Other Citizen Wages	6000
Other Domestic Economic Costs - Variable	600
Other Domestic Economic Costs - Operating Overhead	1416
SUBTOTAL DOMESTIC COMPONENT	17664
TRADABLE COMPONENT	
Raw Material Purchases	11746
Other Tradable Economic Costs - Variable	1100
Other Tradable Economic Costs - Operating Overhead	0
SUBTOTAL TRADABLE COMPONENT	12846
TOTAL ECONOMIC COSTS	**30511**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**121949**
NET VALUE ADDED (After Deducting Depreciation)	**116623**

GROSS VAULE ADDED/TOTAL INITIAL CAPITAL COST =		267.38%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =		255.70%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED =	PULA	4561

TABLE 18G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		5700										
Phased Expenditure		5700	0	0	0	0	0	0	0	0	0	0
Depreciation		143	143	143	143	143	143	143	143	143	143	143
Residual Value		5700	5558	5415	5273	5130	4988	4845	4703	4560	4418	4275
"15 YEAR" ITEMS	15											
Total Expenditure		7635										
Phased Expenditure		7635	0	0	0	0	0	0	0	0	0	0
Depreciation		509	509	509	509	509	509	509	509	509	509	509
Residual Value		7635	7126	6617	6108	5599	5090	4581	4072	3563	3054	2545
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0		
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Notes: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

(Continued...)

TABLE 18G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		4200										
Phased Expenditure		4200	0	0	0	0	0	0	0	0	0	0
Depreciation		280	280	280	280	280	280	280	280	280	280	280
Residual Value		4200	3920	3640	3360	3080	2800	2520	2240	1960	1680	1400
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		2819						2819				
Phased Expenditure		1410	1410	0	0	0	0	1410	1410	0	0	0
Depreciation		235	470	470	470	470	470	470	470	470	470	470
Residual Value		1410	2584	2114	1644	1175	705	1644	2584	2114	1644	1175
"4 YEAR" ITEMS	4											
Total Expenditure		14000				14000				14000		
Phased Expenditure		14000	0	0	0	14000	0	0	0	14000	0	0
Depreciation		3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
Residual Value		14000	10500	7000	3500	14000	10500	7000	3500	14000	10500	7000
NON-DEPRECIABLE ASSETS												
Total Working Capital		10084	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		5042	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		13335	0	0	0	0	0	0	0	0	0	0
Tradable Component		19610	1410	0	0	14000	0	1410	1410	14000	0	0
Total Financial Value		32945	1410	0	0	14000	0	1410	1410	14000	0	0
Total Economic Value		34905	1550	0	0	15400	0	1550	1550	15400	0	0
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		13335	12684	12032	11381	10729	10078	9426	8775	8123	7472	6820
Tradable Component		19610	17004	12754	8504	18255	14005	11164	8324	18074	13824	9575
Total Financial Value		32945	29688	24786	19885	28984	24082	20590	17099	26197	21296	16395
Total Economic Value		34905	31388	26062	20735	30809	25483	21707	17931	28005	22678	17352

Notes: "x Year" Items represent the different expected life spans of individual depreciable assets, from 4 to 40 years

TABLE 18I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	32945	1410	0	0	14000	0
Variable Expenditure	0	6139	9209	12279	12279	12279
Overhead Expenditures	0	21336	21336	21336	21336	21336
TOTAL EXPENDITUR	**32945**	**28885**	**30545**	**33615**	**47615**	**33615**
INCOME						
Gross Income	0	69300	103950	138600	138600	138600
Asset Residual Value	0	0	0	0	0	24082
TOTAL INCOME	**0**	**69300**	**103950**	**138600**	**138600**	**162682**
NET BENEFIT(-COST)	**-32945**	**40415**	**73405**	**104985**	**90985**	**129067**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	308657
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	170.17%
BENEFIT/COST RATIO (B/C) @ 6%	=	2.83
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	11.59

TABLE 18J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	32945	1410	0	0	14000	0	1410	1410	14000	0	0
Variable Expenditure	0	6139	9209	12279	12279	12279	12279	12279	12279	12279	12279
Overhead Expenditures	0	21336	21336	21336	21336	21336	21336	21336	21336	21336	21336
TOTAL EXPENDITUR	**32945**	**28885**	**30545**	**33615**	**47615**	**33615**	**35024**	**35024**	**47615**	**33615**	**33615**
INCOME											
Gross Income	0	69300	103950	138600	138600	138600	138600	138600	138600	138600	138600
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	16395
TOTAL INCOME	**0**	**69300**	**103950**	**138600**	**138600**	**138600**	**138600**	**138600**	**138600**	**138600**	**154995**
NET BENEFIT(-COST)	**-32945**	**40415**	**73405**	**104985**	**90985**	**104985**	**103576**	**103576**	**90985**	**104985**	**121380**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	601966
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	171.22%
BENEFIT/COST RATIO (B/C) @ 6%	=	3.16
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	21.59

TABLE 18K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	34905	1550	0	0	15400	0
Unskilled Citizen Wages	0	3600	3600	3600	3600	3600
Skilled Citizen Wages	0	6048	6048	6048	6048	6048
Other Citizen Wages	0	6000	6000	6000	6000	6000
Other Domestic Costs - Variable	0	300	450	600	600	600
Other Domestic Costs - Overhead	0	1416	1416	1416	1416	1416
Raw Materials Costs	0	5873	8810	11746	11746	11746
Other Tradable Costs - Variable	0	550	825	1100	1100	1100
Other Tradable Costs - Overhead	0	0	0	0	0	0
TOTAL COSTS	**34905**	**25338**	**27149**	**30511**	**45911**	**30511**
ECONOMIC BENEFITS						
Gross Income	0	76230	114345	152460	152460	152460
Asset Residual Value	0	0	0	0	0	25483
TOTAL BENEFITS	**0**	**76230**	**114345**	**152460**	**152460**	**177943**
NET BENEFIT(-COST)	-34905	50892	87196	121949	106549	147432

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	365724
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	191.10%
BENEFIT/COST RATIO (B/C) @ 6%	=	3.31
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	12.83

TABLE 18L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	34905	1550	0	0	15400	0	1550	1550	15400	0	0
Unskilled Citizen Wages	0	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600
Skilled Citizen Wages	0	6048	6048	6048	6048	6048	6048	6048	6048	6048	6048
Other Citizen Wages	0	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
Other Domestic Costs - Variable	0	300	450	600	600	600	450	450	450	450	600
Other Domestic Costs - Overhead	0	1416	1416	1416	1416	1416	1416	1416	1416	1416	1416
Raw Materials Costs	0	5873	8810	11746	11746	11746	8810	8810	8810	8810	11746
Other Tradable Costs - Variable	0	550	825	1100	1100	1100	825	825	825	825	1100
Other Tradable Costs - Overhead	0	0	0	0	0	0	0	0	0	0	0
TOTAL COSTS	**34905**	**25338**	**27149**	**30511**	**45911**	**30511**	**28700**	**28700**	**42549**	**27149**	**30511**
ECONOMIC BENEFITS											
Gross Income	0	76230	114345	152460	152460	152460	152460	152460	152460	152460	152460
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	17352
TOTAL BENEFITS	**0**	**76230**	**114345**	**152460**	**152460**	**152460**	**152460**	**152460**	**152460**	**152460**	**169812**
NET BENEFIT(-COST)	-34905	50892	87196	121949	106549	121949	123760	123760	109911	125311	139301

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	716128
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	191.95%
BENEFIT/COST RATIO (B/C) @ 6%	=	3.84
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	24.11

FINANCIAL/ECONOMIC STATIC MODEL S-19: WELDING ENTERPRISE

TABLE 19A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	0	0	0	0	40	0	0	0
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**0**	**0**		**0**	**0**	**0**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	1	7000	7000	7700	4	2208	1750	1925
BASIC EQUIPMENT								
Furniture/Fixtures	1	1000	1000	1100	6	230	167	183
Office Equipment	1	0	0	0	6	0	0	0
PRODUCTION EQUIPMENT								
Welding equipment	1	12000	12000	13200	6	2755	2000	2200
Misc. Accessories	1	300	300	330	6	69	50	55
CONTINGENCY @ 10%			2030	2233	6	466	338	372
Subtotal Tradable			22330	24563		5728	4305	4736
SUBTOTAL MOVABLE CAPITAL			**22330**	**24563**		**5728**	**4305**	**4736**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			1875	1974	281			
Overhead			11536	10528	1730			
SUBTOTAL WORKING CAPITAL			**13411**	**12502**	**2012**			
TOTAL			**35741**	**37065**	**2012**	**5728**	**4305**	**4736**

FINANCIAL/ECONOMIC STATIC MODEL S-19: WELDING ENTERPRISE

TABLE 19B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
SERVICE RENDERED				
Domestic Items				
Welding services			58520	58520
Subtotal Domestic			58520	58520
GROSS INCOME			**58520**	**58520**

TABLE 19C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			100	100
General Office Expenses			120	120
Fuel and gas			1400	1400
Printing/Stationary			100	100
Postage			200	200
Subscriptions			200	200
Staff Training			0	0
Telephone			450	450
Utilities			380	380
Subtotal Domestic			2950	2950
Tradable Items				
RAW MATERIALS				
Misc.			2600	2860
MARKETING COSTS				
Advertising/Promotion			200	220
Packaging			0	0
Travel/Transportation			500	550
Subtotal Tradable			3300	3630
TOTAL VARIABLE EXPENDITURE			**6250**	**6580**

TABLE 19D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	1	24000	24000	24000
Skilled (Technically)	1	6000	6000	5400
Unskilled	2	1920	3840	1920
Unskilled (security)	1	1680	1680	840
OTHER COSTS				
Accounting Fees			300	300
Administration			0	0
Auditors Remuneration			0	0
Insurance			1117	1117
Maintenance/Repairs			1117	1117
Medical expenses			400	400
Trading Licenses			0	0
Subtotal Domestic			38453	35093
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**38453**	**35093**

FINANCIAL/ECONOMIC STATIC MODEL S-19: WELDING ENTERPRISE

TABLE 19E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	35741
GROSS INCOME	58520
VARIABLE COSTS	6250
GROSS MARGIN	52270
OVERHEAD COSTS	
Overhead Operating Costs	38453
Loan Amortisation and Interest	0
Provisions for Capital Replacement (Depreciation)	4305
Interest on Working Capital	2012
Rental	1200
TOTAL OVERHEAD COSTS	45970
ANNUAL NET CASH INCOME	**6300**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	17.63%

TABLE 19F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	0
Tradable Component	37065
TOTAL ECONOMIC VALUE	**37065**
ECONOMIC BENEFITS	
Gross Income	58520
TOTAL ECONOMIC BENEFITS	**58520**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	2760
Shadow Skilled Citizen Wages	5400
Other Citizen Wages	24000
Other Domestic Economic Costs - Variable	2950
Other Domestic Economic Costs - Operating Overhead	2933
SUBTOTAL DOMESTIC COMPONENT	38043
TRADABLE COMPONENT	
Raw Material Purchases	2860
Other Tradable Economic Costs - Variable	770
Other Tradable Economic Costs - Operating Overhead	0
SUBTOTAL TRADABLE COMPONENT	3630
TOTAL ECONOMIC COSTS	**41673**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**16847**
NET VALUE ADDED (After Deducting Depreciation)	**12112**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	45.45%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	32.68%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	7413

TABLE 19G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different life spans of individual assets from 4 to 40 years

(Continued...)

TABLE 19G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 9	Year 9
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		15330						15330				
Phased Expenditure		7665	7665	0	0	0	0	7665	7665	0	0	0
Depreciation		1278	2555	2555	2555	2555	2555	2555	2555	2555	2555	2555
Residual Value		7665	14053	11498	8943	6388	3833	8943	14053	11498	8943	6388
"4 YEAR" ITEMS	4											
Total Expenditure		7000				7000				7000	0	0
Phased Expenditure		7000	0	0	0	7000	0	0	0	7000	0	0
Depreciation		1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Residual Value		7000	5250	3500	1750	7000	5250	3500	1750	7000	5250	3500
NON-DEPRECIABLE ASSETS												
Total Working Capital		13411	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		6705	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		0	0	0	0	0	0	0	0	0	0	0
Tradable Component		14665	7665	0	0	7000	0	7665	7665	7000	0	0
Total Financial Value		14665	7665	0	0	7000	0	7665	7665	7000	0	0
Total Economic Value		16132	8432	0	0	7700	0	8432	8432	7700	0	0
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		0	0	0	0	0	0	0	0	0	0	0
Tradable Component		14665	19303	14998	10693	13388	9083	12443	15803	18498	14193	9888
Total Financial Value		14665	19303	14998	10693	13388	9083	12443	15803	18498	14193	9888
Total Economic Value		16132	21233	16497	11762	14726	9991	13687	17383	20347	15612	10876

TABLE 19I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	14665	7665	0	0	7000	0
Variable Expenditure	0	3125	4688	6250	6250	6250
Overhead Expenditures	0	39653	39653	39653	39653	39653
TOTAL EXPENDITUR	**14665**	**50443**	**44341**	**45903**	**52903**	**45903**
INCOME						
Gross Income	0	29260	43890	58520	58520	58520
Asset Residual Value	0	0	0	0	0	9083
TOTAL INCOME	**0**	**29260**	**43890**	**58520**	**58520**	**67603**
NET BENEFIT(-COST)	-14665	-21183	-451	12617	5617	21700

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	-3577
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	2.68%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.98
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.06

TABLE 19J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	14665	7665	0	0	7000	0	7665	7665	7000	0	0
Variable Expenditure	0	3125	4688	6250	6250	6250	6250	6250	6250	6250	6250
Overhead Expenditures	0	39653	39653	39653	39653	39653	39653	39653	39653	39653	39653
TOTAL EXPENDITUR	**14665**	**50443**	**44341**	**45903**	**52903**	**45903**	**53568**	**53568**	**52903**	**45903**	**45903**
INCOME											
Gross Income	0	29260	43890	58520	58520	58520	58520	58520	58520	58520	58520
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	9888
TOTAL INCOME	**0**	**29260**	**43890**	**58520**	**58520**	**58520**	**58520**	**58520**	**58520**	**58520**	**68408**
NET BENEFIT(-COST)	-14665	-21183	-451	12617	5617	12617	4952	4952	5617	12617	22505

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	18645
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	14.58%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.05
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.86

TABLE 19K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	16132	8432	0	0	7700	0
Unskilled Citizen Wages	0	2760	2760	2760	2760	2760
Skilled Citizen Wages	0	5400	5400	5400	5400	5400
Other Citizen Wages	0	24000	24000	24000	24000	24000
Other Domestic Costs - Variable	0	1475	2213	2950	2950	2950
Other Domestic Costs - Operating Ov	0	2933	2933	2933	2933	2933
Raw Materials Costs	0	1430	2145	2860	2860	2860
Other Tradable Costs - Variable	0	385	578	770	770	770
Other Tradable Costs - Operating Ov	0	0	0	0	0	0
TOTAL COSTS	16132	46815	40028	41673	49373	41673
ECONOMIC BENEFITS						
Gross Income	0	29260	43890	58520	58520	58520
Asset Residual Value	0	0	0	0	0	9991
TOTAL BENEFITS	0	29260	43890	58520	58520	68511
NET BENEFIT(-COST)	-16132	-17555	3862	16847	9147	26838

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	11500
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	16.25%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.06
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.54

TABLE 19L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	16132	8432	0	0	7700	0	8432	8432	7700	0	0
Unskilled Citizen Wages	0	2760	2760	2760	2760	2760	2760	2760	2760	2760	2760
Skilled Citizen Wages	0	5400	5400	5400	5400	5400	5400	5400	5400	5400	5400
Other Citizen Wages	0	24000	24000	24000	24000	24000	24000	24000	24000	24000	24000
Other Domestic Costs - Variable	0	1475	2213	2950	2950	2950	2950	2950	2950	2950	2950
Other Domestic Costs - Operating Ov	0	2933	2933	2933	2933	2933	2933	2933	2933	2933	2933
Raw Materials Costs	0	1430	2145	2860	2860	2860	2860	2860	2860	2860	2860
Other Tradable Costs - Variable	0	385	578	770	770	770	770	770	770	770	770
Other Tradable Costs - Operating Ov	0	0	0	0	0	0	0	0	0	0	0
TOTAL COSTS	16132	46815	40028	41673	49373	41673	50105	50105	49373	41673	41673
ECONOMIC BENEFITS											
Gross Income	0	29260	43890	58520	58520	58520	58520	58520	58520	58520	58520
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	10876
TOTAL BENEFITS	0	29260	43890	58520	58520	58520	58520	58520	58520	58520	69396
NET BENEFIT(-COST)	-16132	-17555	3862	16847	9147	16847	8416	8416	9147	16847	27723

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	44759
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	25.81%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.14
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	2.75

FINANCIAL/ECONOMIC STATIC MODEL S-20: MILLING ENTERPRISE

TABLE 20A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	1	28500	28500	28500	40	3348	713	713
Water System	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			1425	1425	40	187	36	36
Subtotal Domestic			29925	29925		3535	748	748
Tradable Items								
Latrines	0	0	0	0	10	0	0	0
Fencing	0	0	0	0	15	0	0	0
CONTINGENCY @ 5%			0	0	15	0	0	0
Subtotal Tradable			0	0		0	0	0
SUBTOTAL FIXED CAPITAL			**29925**	**29925**		**3535**	**748**	**748**
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
2WD Pickup Truck	0	0	0	0	4	0	0	0
BASIC EQUIPMENT								
Furniture/Fixtures	1	1000	1000	1100	6	230	167	183
Office Equipment	1	100	100	110	6	23	17	18
PRODUCTION EQUIPMENT								
Dehuller	1	4400	4400	4840	10	1010	440	484
Hammermill	1	3200	3200	3520	10	735	320	352
Lister diesel engine	1	13750	13750	15125	10	3157	1375	1513
Other	1	2100	2100	2310	10	482	210	231
CONTINGENCY @ 10%			2455	2701	10	564	246	270
Subtotal Tradable			27005	29706		6201	2774	3051
SUBTOTAL MOVABLE CAPITAL			**27005**	**29706**		**6201**	**2774**	**3051**
WORKING CAPITAL			**LOAN FINAN.**	**LOAN ECON.**	**INTEREST**			
Variable			2211	2426	332			
Overhead			3852	3276	578			
SUBTOTAL WORKING CAPITAL			**6063**	**5701**	**909**			
TOTAL			**62993**	**65332**	**909**	**9735**	**3522**	**3799**

TABLE 20B: SALES AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Value Pula	Econ. Value Pula
SERVICE				
Domestic Items				
Milling (per kg.)	384000	0.10	38400	38400
Subtotal Domestic			38400	38400
GROSS INCOME			**38400**	**38400**

TABLE 20C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			0	0
OTHER COSTS				
Bank Fees			100	100
General Office Expenses			120	120
Printing/Stationary			0	0
Postage			0	0
Staff Training			0	0
Telephone			0	0
Utilities			0	0
Subtotal Domestic			220	220
Tradable Items				
RAW MATERIALS				
Diesel			6350	6985
Misc.			0	0
MARKETING COSTS				
Advertising/Promotion			0	0
Packaging			0	0
Travel/Transportation			800	880
Subtotal Tradable			7150	7865
TOTAL VARIABLE EXPENDITURE			**7370**	**8085**

TABLE 20D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management	1	6000	6000	6000
Skilled (Technically)	0	0	0	0
Unskilled	2	1920	3840	1920
OTHER COSTS				
Accounting Fees			0	0
Administration			0	0
Auditors Renumeration			0	0
Insurance			1350	1350
Maintenance/Repairs			1650	1650
Trading Licenses			0	0
Subtotal Domestic			12840	10920
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**12840**	**10920**

TABLE 20E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	62993
GROSS INCOME	38400
VARIABLE COSTS	7370
GROSS MARGIN	31030
OVERHEAD COSTS	
Overhead Operating Costs	12840
Loan Amortisation and Interest	0
Provisions for Capital Replacement (Depreciation)	3522
Interest on Working Capital	909
Rental	0
TOTAL OVERHEAD COSTS	17271
ANNUAL NET CASH INCOME	**13759**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMENT	21.84%

TABLE 20F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	29925
Tradable Component	35407
TOTAL ECONOMIC VALUE	**65332**
ECONOMIC BENEFITS	
Gross Income	38400
TOTAL ECONOMIC BENEFITS	**38400**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	1920
Shadow Skilled Citizen Wages	0
Other Citizen Wages	6000
Other Domestic Economic Costs - Variable	220
Other Domestic Economic Costs - Operating Overhead	3000
SUBTOTAL DOMESTIC COMPONENT	11140
TRADABLE COMPONENT	
Raw Material Purchases	6985
Other Tradable Economic Costs - Variable	880
Other Tradable Economic Costs - Operating Overhead	0
SUBTOTAL TRADABLE COMPONENT	7865
TOTAL ECONOMIC COSTS	**19005**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**19395**
NET VALUE ADDED (After Deducting Depreciation)	**15596**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	29.69%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	23.87%
CAPITAL COST/EMPLOYMENT OPPORTUNITY CREATED = PULA	21777

TABLE 20G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		29925										
Phased Expenditure		29925	0	0	0	0	0	0	0	0	0	0
Depreciation		748	748	748	748	748	748	748	748	748	748	748
Residual Value		29925	29177	28429	27681	26933	26184	25436	24688	23940	23192	22444
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Note: "x Year" Items represent the different expected life spans of individual depreciable assets from 4 to 40 years

(Continued...)

TABLE 20G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"10 YEAR" ITEMS	10											
Total Expenditure		25905										
Phased Expenditure		25905	0	0	0	0	0	0	0	0	0	0
Depreciation		2591	2591	2591	2591	2591	2591	2591	2591	2591	2591	2591
Residual Value		25905	23315	20724	18134	15543	12953	10362	7772	5181	2591	0
"6 YEAR" ITEMS	6											
Total Expenditure		1100						1100				
Phased Expenditure		550	550	0	0	0	0	550	550	0	0	0
Depreciation		92	183	183	183	183	183	183	183	183	183	183
Residual Value		550	1008	825	642	458	275	642	1008	825	642	458
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
NON-DEPRECIABLE ASSETS												
Total Working Capital		6063	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		3031	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		29925	0	0	0	0	0	0	0	0	0	0
Tradable Component		26455	550	0	0	0	0	550	550	0	0	0
Total Financial Value		56380	550	0	0	0	0	550	550	0	0	0
Total Economic Value		59026	605	0	0	0	0	605	605	0	0	0
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		29925	29177	28429	27681	26933	26184	25436	24688	23940	23192	22444
Tradable Component		26455	24323	21549	18775	16001	13228	11004	8780	6006	3232	458
Total Financial Value		56380	53500	49978	46456	42934	39412	36440	33468	29946	26424	22902
Total Economic Value		59026	55932	52133	48333	44534	40735	37540	34346	30547	26747	22948

TABLE 20I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 1	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	56380	550	0	0	0	0
Variable Expenditure	0	3685	5528	7370	7370	7370
Overhead Expenditures	0	12840	12840	12840	12840	12840
TOTAL EXPENDITURI	**56380**	**17075**	**18367**	**20210**	**20210**	**20210**
INCOME						
Gross Income	0	19200	28800	38400	38400	38400
Asset Residual Value	0	0	0	0	0	39412
TOTAL INCOME	**0**	**19200**	**28800**	**38400**	**38400**	**77812**
NET BENEFIT(-COST)	**-56380**	**2125**	**10433**	**18190**	**18190**	**57602**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	26071
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	17.21%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.20
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.58

TABLE 20J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	56380	550	0	0	0	0	550	550	0	0	0
Variable Expenditure	0	3685	5528	7370	7370	7370	7370	7370	7370	7370	7370
Overhead Expenditures	0	12840	12840	12840	12840	12840	12840	12840	12840	12840	12840
TOTAL EXPENDITURI	**56380**	**17075**	**18367**	**20210**	**20210**	**20210**	**20760**	**20760**	**20210**	**20210**	**20210**
INCOME											
Gross Income	0	19200	28800	38400	38400	38400	38400	38400	38400	38400	38400
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	22902
TOTAL INCOME	**0**	**19200**	**28800**	**38400**	**38400**	**38400**	**38400**	**38400**	**38400**	**38400**	**61302**
NET BENEFIT(-COST)	**-56380**	**2125**	**10433**	**18190**	**18190**	**18190**	**17640**	**17640**	**18190**	**18190**	**41092**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	63657
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	21.76%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.34
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	2.33

TABLE 20K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	59026	605	0	0	0	0
Unskilled Citizen Wages	0	1920	1920	1920	1920	1920
Skilled Citizen Wages	0	0	0	0	0	0
Other Citizen Wages	0	6000	6000	6000	6000	6000
Other Domestic Costs - Variable	0	110	165	220	220	220
Other Domestic Costs - Operating Ov	0	3000	3000	3000	3000	3000
Raw Materials Costs	0	3493	5239	6985	6985	6985
Other Tradable Costs - Variable	0	440	660	880	880	880
Other Tradable Costs - Operating Ov	0	0	0	0	0	0
TOTAL COSTS	59026	15567	16984	19005	19005	19005
ECONOMIC BENEFITS						
Gross Income	0	19200	28800	38400	38400	38400
Asset Residual Value	0	0	0	0	0	40735
TOTAL BENEFITS	0	19200	28800	38400	38400	79135
NET BENEFIT(-COST)	-59026	3633	11817	19395	19395	60130

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	29715
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	18.33%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.23
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.63

TABLE 20L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	59026	605	0	0	0	0	605	605	0	0	0
Unskilled Citizen Wages	0	1920	1920	1920	1920	1920	1920	1920	1920	1920	1920
Skilled Citizen Wages	0	0	0	0	0	0	0	0	0	0	0
Other Citizen Wages	0	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
Other Domestic Costs - Variable	0	110	165	220	220	220	220	220	220	220	220
Other Domestic Costs - Operating Ov	0	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
Raw Materials Costs	0	3493	5239	6985	6985	6985	6985	6985	6985	6985	6985
Other Tradable Costs - Variable	0	440	660	880	880	880	880	880	880	880	880
Other Tradable Costs - Operating Ov	0	0	0	0	0	0	0	0	0	0	0
TOTAL COSTS	59026	15567	16984	19005	19005	19005	19610	19610	19005	19005	19005
ECONOMIC BENEFITS											
Gross Income	0	19200	28800	38400	38400	38400	38400	38400	38400	38400	38400
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	22948
TOTAL BENEFITS	0	19200	28800	38400	38400	38400	38400	38400	38400	38400	61348
NET BENEFIT(-COST)	-59026	3633	11817	19395	19395	19395	18790	18790	19395	19395	42343

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	69901
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	22.76%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.38
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	2.39

TABLE M1-A: CAPITAL REQUIREMENTS

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Value Pula	Life Year	Amort.+ Interest @10%	Finan. Deprec.	Econ. Deprec.
FIXED CAPITAL								
Domestic Items								
Buildings	2	20000	40000	40000	40	4698	1000	1000
Water System	2	800	1600	1600	15	210	107	107
CONTINGENCY @ 5%			2080	2080	15	273	139	139
Subtotal Domestic			43680	43680		5182	1245	1245
Tradable Items								
Latrines	2	3000	6000	6600	10	976	600	660
Fencing	2	3000	6000	6600	15	789	400	440
CONTINGENCY @ 5%			600	660	15	79	40	44
Subtotal Tradable			12600	13860		1844	1040	1144
SUBTOTAL FIXED CAPITAL			56280	57540		7026	2285	2389
MOVABLE CAPITAL								
Domestic Items			0	0		0	0	0
CONTINGENCY @ 10%			0	0	6	0	0	0
Subtotal Domestic			0	0		0	0	0
Tradable Items								
VEHICLES								
4WD Pickup Truck	2	50000	100000	110000	4	31547	25000	27500
2WD Pickup Truck	1	20000	20000	22000	4	6309	5000	5500
BASIC EQUIPMENT								
Furniture/Fixtures	1	32000	32000	35200	6	7347	5333	5867
Office Equipment	1	22000	22000	24200	6	5051	3667	4033
CONTINGENCY @ 10%			17400	19140	6	3995	2900	3190
Subtotal Tradable			191400	210540		54250	41900	46090
SUBTOTAL MOVABLE CAPITAL			191400	210540		54250	41900	46090
WORKING CAPITAL			LOAN FINAN.	LOAN ECON.	INTEREST			
Variable			168930	182460	25340			
Overhead			35113	31567	5267			
SUBTOTAL WORKING CAPITAL			204043	214027	30606			
TOTAL			451723	482107	30606	61277	44185	48479

TABLE M1-B: SALES AT FULL PRODUCTION

Item	Price Pula	Finan. Value Pula	Econ. Value Pula
CRAFTS			
Tradable Items			
Crafts	585000	585000	643500
Clothing items, incl. T-shirts	127500	127500	140250
Books	45500	45500	50050
Subtotal Tradable		758000	833800
GROSS INCOME		**758000**	**833800**

TABLE M1-C: VARIABLE EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
FEES				
Licences			800	0
OTHER COSTS				
Bad Debts			2000	2000
Bank Fees			1000	1000
General Office Expenses			3800	3800
Postage			2000	2000
Printing/Stationary			2700	2700
Product Development			10000	10000
Purchasing Travel/Transportation			65000	65000
Security Fees			2500	2500
Staff Training			300	0
Telephone			8000	8000
Utilities			3000	3000
Subtotal Domestic			101100	100000
Tradable Items				
PURCHASES				
Crafts			325000	357500
Clothing			85000	93500
Books			35000	38500
Subtotal Purchases			445000	489500
MARKETING COSTS				
Advertising/Promotion			7000	7700
Packaging			2000	2200
Travel/Transportation			8000	8800
Subtotal Marketing Costs			17000	18700
Subtotal Tradable			462000	508200
TOTAL VARIABLE EXPENDITURE			**563100**	**608200**

TABLE M1-D: OPERATING OVERHEAD EXPENDITURE AT FULL PRODUCTION

Item	Unit	Price Pula	Finan. Cost Pula	Econ. Cost Pula
Domestic Items				
SALARIES AND WAGES				
Management (Volunteer)	1	0	0	0
Management (General Manager Trainee)	1	18000	18000	18000
Management (Retail Shop)	1	6000	6000	6000
Management (Warehouse Supervisor)	1	12000	12000	12000
Skilled (Bookkeeper)	1	9000	9000	8100
Skilled (Secretary)	1	9000	9000	8100
Skilled (Buyers)	3	6000	18000	16200
Unskilled (Shop Assistants)	2	3900	7800	3900
Unskilled (Driver/Assistant)	1	3600	3600	1800
Unskilled (Packer)	1	1920	1920	960
Unskilled (Cleaner/Tea Person)	1	1920	1920	960
Subtotal Salaries and Wages	14		87240	76020
OTHER COSTS				
Accounting Fees			3000	3000
Administration			500	500
Auditors Remuneration			6000	6000
Insurance			9570	9570
Maintenance/Repairs			10133	10133
Trading Licenses			600	0
Subtotal Other Costs			29803	29203
Subtotal Domestic			117043	105223
Tradable Items				
Design Training/Advice	0	0	0	0
Travel and Accommodation			0	0
Subtotal Tradable			0	0
TOTAL OPERATING OVERHEAD EXPENDITURE			**117043**	**105223**

FINANCIAL/ECONOMIC STATIC MODEL S-M1: CRAFT MARKETING ENTERPRISE

TABLE M1-E: STATIC FINANCIAL MODEL AT FULL PRODUCTION

Item	Total Pula
TOTAL CAPITAL REQUIREMENTS	451723
GROSS INCOME	758000
VARIABLE COSTS	563100
GROSS MARGIN	194900
OVERHEAD COSTS	
Overhead Operating Costs	117043
Loan Amortisation and Interest	0
Provisions for Capital Replacement (Depreciation)	44185
Interest on Working Capital	30606
Rental	57240
TOTAL OVERHEAD COSTS	249075
ANNUAL NET CASH INCOME	**-54175**
ANNUAL NET CASH INCOME/TOTAL INITIAL CAPITAL INVESTMEN	-11.99%

TABLE M1-F: STATIC ECONOMIC MODEL AT FULL PRODUCTION

Item	Economic Value Pula
CAPITAL REQUIREMENTS	
Domestic Component	43680
Tradable Component	438427
TOTAL ECONOMIC VALUE	**482107**
ECONOMIC BENEFITS	
Gross Income	833800
TOTAL ECONOMIC BENEFITS	**833800**
ECONOMIC COSTS	
DOMESTIC COMPONENT	
Shadow Unskilled Citizen Wages	7620
Shadow Skilled Citizen Wages	32400
Other Citizen Wages	36000
Other Domestic Economic Costs - Variable	100000
Other Domestic Economic Costs - Operating Overhead	29203
SUBTOTAL DOMESTIC COMPONENT	205223
TRADABLE COMPONENT	
Purchases	489500
Other Tradable Economic Costs - Variable	18700
Other Tradable Economic Costs - Operating Overhead	0
SUBTOTAL TRADABLE COMPONENT	508200
TOTAL ECONOMIC COSTS	**713423**
ANNUAL NET ECONOMIC BENEFIT (Gross Value Added)	**120377**
NET VALUE ADDED (After Deducting Depreciation)	**71898**
GROSS VALUE ADDED/TOTAL INITIAL CAPITAL COST =	24.97%
NET VALUE ADDED/TOTAL INITIAL CAPITAL COST =	14.91%
CAPITAL COST/FORMAL EMPLOYMENT OPPORTUNITY CREATED =	34436
CAPITAL COST/INFORMAL EMPLOY. OPPORTUNITY CREATED = P	241

TABLE M1-G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Domestic Items												
"40 YEAR" ITEMS	40											
Total Expenditure		40000										
Phased Expenditure		40000	0	0	0	0	0	0	0	0	0	0
Depreciation		1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
Residual Value		40000	39000	38000	37000	36000	35000	34000	33000	32000	31000	30000
"15 YEAR" ITEMS	15											
Total Expenditure		3680										
Phased Expenditure		3680	0	0	0	0	0	0	0	0	0	0
Depreciation		245	245	245	245	245	245	245	245	245	245	245
Residual Value		3680	3435	3189	2944	2699	2453	2208	1963	1717	1472	1227
"10 YEAR" ITEMS	10											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"6 YEAR" ITEMS	6											
Total Expenditure		0						0				
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"4 YEAR" ITEMS	4											
Total Expenditure		0				0				0	0	0
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0

Notes: "x Year" Items represent the different expected life spans of individual depreciable assets

(Continued...)

TABLE M1-G: CAPITAL PHASING, DEPRECIATION SCHEDULE, AND CALCULATION OF RESIDUAL VALUE

Item	Life (Yrs)	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
DEPRECIABLE ASSETS												
Tradable Items												
"40 YEAR" ITEMS	40											
Total Expenditure		0										
Phased Expenditure		0	0	0	0	0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0	0	0	0	0
Residual Value		0	0	0	0	0	0	0	0	0	0	0
"15 YEAR" ITEMS	15											
Total Expenditure		6600										
Phased Expenditure		6600	0	0	0	0	0	0	0	0	0	0
Depreciation		440	440	440	440	440	440	440	440	440	440	440
Residual Value		6600	6160	5720	5280	4840	4400	3960	3520	3080	2640	2200
"10 YEAR" ITEMS	10											
Total Expenditure		6000										6000
Phased Expenditure		6000	0	0	0	0	0	0	0	0	0	6000
Depreciation		600	600	600	600	600	600	600	600	600	600	600
Residual Value		6000	5400	4800	4200	3600	3000	2400	1800	1200	600	6000
"6 YEAR" ITEMS	6											
Total Expenditure		71400						71400				
Phased Expenditure		35700	35700	0	0	0	0	35700	35700	0	0	0
Depreciation		5950	11900	11900	11900	11900	11900	11900	11900	11900	11900	11900
Residual Value		35700	65450	53550	41650	29750	17850	41650	65450	53550	41650	29750
"4 YEAR" ITEMS	4											
Total Expenditure		120000				120000				120000	0	0
Phased Expenditure		120000	0	0	0	120000	0	0	0	120000	0	0
Depreciation		30000	30000	30000	30000	30000	30000	30000	30000	30000	30000	30000
Residual Value		120000	90000	60000	30000	120000	90000	60000	30000	120000	90000	60000
NON-DEPRECIABLE ASSETS												
Total Working Capital		204043	0	0	0	0	0	0	0	0	0	0
Phased Expenditure		204043	0	0	0	0	0	0	0	0	0	0
TOTAL PHASED CAPITAL EXPENDITURE												
Domestic Component		43680	0	0	0	0	0	0	0	0	0	0
Tradable Component		168300	35700	0	0	120000	0	35700	35700	120000	0	6000
Total Financial Value		211980	35700	0	0	120000	0	35700	35700	120000	0	6000
Total Economic Value		228810	39270	0	0	132000	0	39270	39270	132000	0	6600
TOTAL ASSET RESIDUAL VALUE												
Domestic Component		43680	42435	41189	39944	38699	37453	36208	34963	33717	32472	31227
Tradable Component		168300	167010	124070	81130	158190	115250	108010	100770	177830	134890	97950
Total Financial Value		211980	209445	165259	121074	196889	152703	144218	135733	211547	167362	129177
Total Economic Value		228810	226146	177666	129187	212708	164228	155019	145810	229330	180851	138972

TABLE M1-I: DYNAMIC FINANCIAL MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
EXPENDITURE						
Capital Expenditure	211980	35700	0	0	120000	0
Variable Expenditure	0	281550	422325	563100	563100	563100
Overhead Expenditures	0	174283	174283	174283	174283	174283
TOTAL EXPENDITURI	**211980**	**491533**	**596608**	**737383**	**857383**	**737383**
INCOME						
Gross Income	0	379000	568500	758000	758000	758000
Asset Residual Value	0	0	0	0	0	152703
TOTAL INCOME	**0**	**379000**	**568500**	**758000**	**758000**	**910703**
NET BENEFIT(-COST)	**-211980**	**-112533**	**-28108**	**20617**	**-99383**	**173321**

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	-259484
FINANCIAL RATE OF RETURN (FRR) OVER 5 YEARS	=	-23.11%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.91
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	-0.24

TABLE M1-J: DYNAMIC FINANCIAL MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
EXPENDITURE											
Capital Expenditure	211980	35700	0	0	120000	0	35700	35700	120000	6000	
Variable Expenditure	0	281550	422325	563100	563100	563100	563100	563100	563100	563100	563100
Overhead Expenditures	0	174283	174283	174283	174283	174283	174283	174283	174283	174283	174283
TOTAL EXPENDITURI	**211980**	**491533**	**596608**	**737383**	**857383**	**737383**	**773083**	**773083**	**857383**	**743383**	**737383**
INCOME											
Gross Income	0	379000	568500	758000	758000	758000	758000	758000	758000	758000	758000
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	129177
TOTAL INCOME	**0**	**379000**	**568500**	**758000**	**758000**	**758000**	**758000**	**758000**	**758000**	**758000**	**887177**
NET BENEFIT(-COST)	**-211980**	**-112533**	**-28108**	**20617**	**-99383**	**20617**	**-15083**	**-15083**	**-99383**	**14617**	**149794**

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	-358381
FINANCIAL RATE OF RETURN (FRR) OVER 10 YEARS	=	-17.13%
BENEFIT/COST RATIO (B/C) @ 6%	=	0.93
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	-0.08

TABLE M1-K: DYNAMIC ECONOMIC MODEL - ANALYSIS 5 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
ECONOMIC COSTS						
Capital Expenditure	228810	39270	0	0	132000	0
Unskilled Citizen Wages	0	7620	7620	7620	7620	7620
Skilled Citizen Wages	0	32400	32400	32400	32400	32400
Other Citizen Wages	0	36000	36000	36000	36000	36000
Other Domestic Costs - Variable	0	50000	75000	100000	100000	100000
Other Domestic Costs - Overhead	0	29203	29203	29203	29203	29203
Raw Materials Costs	0	244750	367125	489500	489500	489500
Other Tradable Costs - Variable	0	9350	14025	18700	18700	18700
Other Tradable Costs - Overhead	0	0	0	0	0	0
TOTAL COSTS	228810	448593	561373	713423	845423	713423
ECONOMIC BENEFITS						
Gross Income	0	416900	625350	833800	833800	833800
Asset Residual Value	0	0	0	0	0	164228
TOTAL BENEFITS	0	416900	625350	833800	833800	998028
NET BENEFIT(-COST)	-228810	-31693	63977	120377	-11623	284606

NET PRESENT VALUE (NPV) OVER 5 YEARS @ 6%	=	96952
ECONOMIC RATE OF RETURN (ERR) OVER 5 YEARS	=	15.71%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.03
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	1.57

TABLE M1-L: DYNAMIC ECONOMIC MODEL - ANALYSIS 10 YEARS (PULA, 1990)

Item	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
ECONOMIC COSTS											
Capital Expenditure	228810	39270	0	0	132000	0	39270	39270	132000	6600	0
Unskilled Citizen Wages	0	7620	7620	7620	7620	7620	7620	7620	7620	7620	7620
Skilled Citizen Wages	0	32400	32400	32400	32400	32400	32400	32400	32400	32400	32400
Other Citizen Wages	0	36000	36000	36000	36000	36000	36000	36000	36000	36000	36000
Other Domestic Costs - Variable	0	50000	75000	100000	100000	100000	100000	100000	100000	100000	100000
Other Domestic Costs - Overhead	0	29203	29203	29203	29203	29203	29203	29203	29203	29203	29203
Raw Materials Costs	0	244750	367125	489500	489500	489500	489500	489500	489500	489500	489500
Other Tradable Costs - Variable	0	9350	14025	18700	18700	18700	18700	18700	18700	18700	18700
Other Tradable Costs - Overhead	0	0	0	0	0	0	0	0	0	0	0
TOTAL COSTS	228810	448593	561373	713423	845423	713423	752693	752693	845423	720023	713423
ECONOMIC BENEFITS											
Gross Income	0	416900	625350	833800	833800	833800	833800	833800	833800	833800	833800
Asset Residual Value	0	0	0	0	0	0	0	0	0	0	138972
TOTAL BENEFITS	0	416900	625350	833800	833800	833800	833800	833800	833800	833800	972772
NET BENEFIT(-COST)	-228810	-31693	63977	120377	-11623	120377	81107	81107	-11623	113777	259349

NET PRESENT VALUE (NPV) OVER 10 YEARS @ 6%	=	279281
ECONOMIC RATE OF RETURN (ERR) OVER 10 YEARS	=	21.12%
BENEFIT/COST RATIO (B/C) @ 6%	=	1.06
NET BENEFIT-INVESTMENT RATIO (N/K) @ 6%	=	2.41

APPENDIX 7.2

A DESCRIPTION OF THE MAIN NON-FARM, NON-CRAFT, SMALL-SCALE INDUSTRIES IN BOTSWANA

This appendix firstly describes the most common informal activities that, by their nature, are only found in rural areas (numbers 11 to 15). Secondly, a description of other non-farm, non-craft activities found in rural and urban areas is provided (numbers 16 to 20). Some of these activities are more formal than others, but all are considered small-scale. All are activities that craft producers could possibly be engaged in considering their educational levels, skills, experience, access to opportunities, etc. For information on the number of enterprises and workers engaged in the enterprises, along with percentages of the total, see Table 10.1 in Chapter 10.

11.[1] BEER-BREWING

There are typically three forms of home-brew made in Botswana: 1) From grain, usually sorghum, but also millet, and much less often from maize. This type of beer is called *bojalwa* in Setswana. 2) From the fruit of the Grewia bush (*moretlwa)* and sugar. This type of beer is called *kgadi* or *khadi* in Setswana. 3) From 'Power' (a commercial, store-bought powder), which is mixed with sugar. Two other forms of an alcoholic drink are also sold by small-scale entrepreneurs: 1) pre-made '*Chibuku*' beer, bought in bulk and resold by the cupful, and 2) a homemade wine produced from the sap of the Hyphaene petersiana palm tree.

The social and economic importance of homemade beer-brewing is well documented for Botswana (Curtis 1973; Bond 1974; CSO 1976; Roe 1981; Sheppard 1979; Egner and Klausen 1980; Narayan-Parker 1981; Bishop and Scoones 1994; and CSO 1995). Curtis (1973:25) concludes that "when other sources of income are ill-distributed and unreliable, *bojalwa* brewing contributes a vital part in the livelihood of many rural households." Roe (1981:45–46) examines nine different studies that took place throughout the 1970s and covered more than 1500 households. He concludes that during the time of the studies, approximately 51 percent of all rural households had at least one person brewing and selling beer. Higher figures (as much as 83 percent in some villages) were found for those households who were making but not selling regularly, or who were brewing for home consumption. More recent figures from the 1993/94

[1] These numbers are linked to the financial and economic model numbers, found in Appendix 7.1.

Household Income and Expenditure Study (HIES) (CSO 1995:90) estimated that, nationally, 31.8 percent of households involved in some form of entrepreneurial activity, brew and sell beer. For the early 1970s, the 1974/75 Rural Income Distribution Survey (CSO 1976:52) reported that beer-brewing accounted for 79 percent of the total monthly income from rural manufacturing. Finally, Sheppard (1979:54) concludes that beer-brewing is "the most widespread manufacturing activity in rural Botswana."

The 51 percent figure for beer-brewing households as averaged from studies between 1970 and 1980 (Roe 1981:45–46) is in close alignment to one study conducted in the 1980s in which a 47 percent figure for beer-brewing was extrapolated for 900 households in the Chobe Enclave (Kolhoff and Polet 1990:82). Within this 47 percent, 36 percent of the households reported that beer-brewing was their most important informal, income-generating activity, while 11 percent described it as their second most important activity. Kolhoff and Polet (1990:82) estimated that about 690 people earn a total of about P53,000 per annum from brewing beer in the Enclave. Fewer beer-brewing households per total households were discovered in three areas in Ngamiland District. In 1985, 111 households were surveyed in the Gomare area of Ngamiland District, but only one-quarter were found brewing beer for income (NADP 1985). In the village of Etsha 5, 28 percent of the households, and in Danega, only 19 percent were estimated to brew beer for income (Bishop and Scoones 1994:21&28).

Although these studies and others acknowledge the importance of beer-brewing, they also mention that the actual amount of money earned by individual households is low, and that beer-brewing mainly acts as a means of self-employment and a method of redistributing or circulating income throughout a rural area (Curtis 1973:25; CSO 1976:49&118; Dorloechter 1989:13; Kolhoff and Polet 1990:82; Cunningham 1991:254; de Haas 1991:101). This self-employment and circulation are especially important when other forms of income-generating production are few, poor or undiversified. Although it is difficult to compare the studies in the 1970s and 1980s with the Kolhoff and Polet study of 1990 for Chobe and the Bishop and Scoones participatory study in 1993 for Ngamiland, it is likely that the overall importance of beer-brewing in terms of contribution to household income has decreased.

In all but a very few cases, women are the beer-brewers. For example, in a study on 204 households in south-eastern Botswana conducted in 1974, only three percent of the brewing was

undertaken by men (Bond 1974:14&33). Kolhoff and Polet (1990:83) note that "*Chibuku* brewing and *khadi* making is a typical business of women, providing them with their own source of cash income." Dorloechter (1989:13) also agrees that women brew *khadi* and sorghum beer, and while men seem to dominate the field of tapping and brewing palm wine, more and more women are entering this area.

Previously most people contended that beer-brewing is the main activity of the poorest households. However, more recently, several studies have noted that, in fact, the majority of beer-brewers belong to the wealthier, or at least middle-class, households (Kjaer-Olsen 1980:45; Roe 1981:47; Kolhoff and Polet 1990:83). Possible reasons include: 1) beer-brewing and beer parties cost money, which poorer families may not have to begin brewing, and 2) making and selling beer is a risky business due to several factors, such as the possibility that a batch of beer is poorly brewed or goes off, too much competition from other brewers, lack of customers, limited purchasing power of potential customers, customers wanting to buy on credit, and family and friends expecting free 'tastes' (CSO 1976:48; Narayan-Parker 1981:64; Roe 1981:47; Dorloechter 1989:13; Kolhoff and Polet 1990:103). The large number of beer-brewers belonging to poor, rural households simply correlates with the large number of poor households living in rural Botswana (Roe 1981:50 citing Dahl 1978). The point that beer-brewers do not necessarily belong to very poor households does not however deny the importance of beer-brewing to the poor households that do brew and sell beer. Several researchers emphasise that sales of homemade beer act as a major source of cash income to poor households (Curtis 1973:20; Vierich 1979:97; Egner and Klausen 1980:64). According to the 1974/75 RIDS study, the so-called "male-less" households frequently depended on beer-brewing to avoid destitution (CSO 1976:49).

The evidence on the perception that more beer-brewers belong to female-headed houses is slightly contradictory. In several studies there appears to be no statistical difference between beer-brewers belonging to female- or male-headed households (Roe 1981:49). There is also some evidence that suggests that although women almost always brew the beer, the brewers are more likely to belong to male-headed households (Kjaer-Olsen 1980:45), yet Kolhoff and Polet (1990:83) found the opposite to be true. Of all male-headed households in the Chobe Enclave, 43 percent brew beer, in contrast to 54 percent in female-headed households. Kolhoff and Polet (1990:83) further note that smaller households are less likely to be involved in brewing than larger households, probably due to labour constraints.

12. REED AND THATCHING GRASS COLLECTION AND SALES

Reeds and grass are typically collected in Botswana when the plants are fully grown. This is usually from about mid-June through September, although August is most often the key month (Dorloechter 1989:56; Kolhoff and Polet 1990:90; Bishop and Scoones 1994:22).

This activity is done almost exclusively by women to meet their own demand for house building. However, any surplus is usually sold and sometimes women collect purposely to fill orders (CSO 1976:67; Dorloechter 1989:14&55; Kolhoff and Polet 1990:90; Bishop and Scoones 1994:25). In the area east of the Okavango Delta, about one-third of the women are thought to be involved in thatch or reed collection (Kunze 1989:25). The mean percentage of total rural households collecting grass or reeds from two studies was equal to 11 percent (NADP 1985; Kolhoff and Polet 1990). Kolhoff and Polet (1990:90) also conclude that poorer households are more often involved in these collection activities than wealthier households.

Most studies (Dorloechter 1989:14; Kolhoff and Polet 1990:90) conclude that the sale of reeds and grass is only a very minor source of cash income due to two main factors: 1) within reach of the areas where the grass and reed are found, demand is usually limited because the materials are accessible to everyone and collection requires no particular skill, and 2) transport problems and high costs limit marketing to areas far from the collection sites. During a participatory study in two villages of Ngamiland District (Etsha 5 and Danega), women did not rate reed collection/sale as a very important source of income, and grass was not mentioned at all (Bishop and Scoones 1994:27&31).

13. BUILDING/CONSTRUCTION, ESPECIALLY OF HUTS AND FENCES

In rural areas, the category of building primarily includes hut building and fencing around a domestic living area. Sometimes builders are requested to construct latrines. Due to the availability of natural materials and time limits on labour (i.e. seasonal agricultural work), building and repair of huts and compounds in rural areas takes place over a two to three month period (from about August to October) (Dorloechter 1989:56; and from observation).

The task of building is shared by men and women. Men typically cut poles and construct the roof truss. Women are most often responsible for thatching the roof, preparing and mudding walls and floors, and building reed walls and fences (Dorloechter 1989:55; and from observation). The RIDS study of 1974/75 noted that most house construction was carried out

by family members and their friends (CSO 1976:56). Usually beer and meat would be available for helpers. However, the study also noted that there was a growing number of small rural contractors who specialised in certain aspects of house building. For example a specialised thatcher at that time could earn as much as R5 per day for their work.[2] The situation today seems to be very much the same. For example, although some money is earned by some people in the eastern and western areas of the Okavango Delta in Ngamiland District, hut building is considered primarily a subsistence activity (Dorloechter 1989:55; Bishop and Scoones 1994:27&31). Kolhoff and Polet (1990:95) estimate that about three percent of the 900 households in the Chobe Enclave have one person involved in the cash-earning, service industry of building. By inflating the 1988 prices from the Kolhoff and Polet study, the average casual builder earned P160 per annum in 1990. They also conclude that wealthier households are more often involved in the building sector for income than poorer households.

According to the 1991 SIAPAC study, building represents five percent of all non-agricultural, rural enterprises. Because builders are skilled in specific tasks, this figure can be further dissected, as follows: hut building (2.8 percent), roofing with thatching materials (1.6 percent), roofing with other materials (.4 percent) and fencing (.3 percent). Although the Daniels and Fisseha study (1992:A-12)did not mention building in rural areas, they estimated that building in urban areas represents one percent of all urban enterprises. It can only be surmised that urban, unskilled and semi-skilled builders more often try to find work on construction sites rather than running their own small contractor businesses (Khumalo 1995:866).

14. GATHERING AND SELLING OF VELD PRODUCTS

A wide variety of veld products are gathered across Botswana, such as traditional medicines, firewood, reeds, thatching grass, craft materials, and food, including wild spinach (*merogo*), mopane worms (*phane*) and *morula* fruit for jam. Reeds and thatching grass have been discussed already.

The time for gathering veld products such as insects, wild fruits, vegetables and medicinal plants varies considerably across Botswana, depending on the plant-type gathered and the seasonal

[2] Considering that the minimum daily rate for unskilled labour was 50 cents, R5 was quite a bit of money. At that time R1 was equal to US$1.16, and the median income per household per year was estimated to be R630 (CSO 1976).

variations (Tanaka 1980:59; Silberbauer 1981:199). In northern Botswana, most gathering of plants takes place erratically over the four-month period of January to April, while collection of *phane* (mopane worm) occurs in the winter months of late May to early August (Dorloechter 1989:56). Certain species are dried for consumption (and sale) at a later stage (CSO 1976:62). The digging of grapple (Harpagophytum procumbens) takes place between April and October by legislation, rather than due to seasonal availability (Taylor and Moss 1983:85). Obviously these time restrictions, along with climatic and spatial variations, limit the productivity and income-generating potential of many veld products.

Depending on the area, the culture and the plant species, wild foods are collected purposely and/or opportunistically, and most form an important nutritional complement to the basic diet (CSO 1976:64–65; Tanaka 1980:36; Silberbauer 1981:198; Kolhoff and Polet 1990:90). Kolhoff and Polet (1990:90) note that the gathering of veld products in the Chobe Enclave is almost exclusively a subsistence activity, and the 1974/75 RIDS study (CSO 1976:64–65) found that only about ten out of 300 species of wild food were marketed in rural areas. At that time also, very little firewood was being sold because most households would gather their own (CSO 1976:64–65).

Fruits that are sometimes traded or sold include Hyphaene petersiana palm nuts and Adansonia digitata baobab fruit, in Chobe District (Kolhoff and Polet 1990:90). In Ngamiland District, Grewia sp., Diospyrus mespiliformis and Hyphaene petersiana fruits are collected, and sold locally at the going rate of 25 to 50 thebe per small cup, 25 to 75 thebe per cup, and 10 thebe each, respectively (Bishop and Scoones 1994:25).

Grapple, a traditional medicine for stomach problems and wounds, and a source of fluid for the Bushmen (Silberbauer 1981:87), is one of the few veld products sold on a more commercial basis (Kgathi 1988:119). While Taylor and Moss (1983:92) estimated that there are about 600 grapple collectors, Kgathi (1988) in a more recent study estimates that about 400 grapple collectors dig the tuber roots and then sell them by the kilogram to NGO or private traders. These traders then sell the sliced tubers to pharmaceutical firms in South Africa, Namibia and Europe, where it is used in medicine for arthritis and rheumatism (Kgathi 1988:119).

In 1978 Dahl conducted a national accounts analysis of data from the 1974/75 RIDS study. Based on his conclusions, the total value of all gathered products in 1990 (1974/75 figures

inflated to 1990) would be P15.32 million. However, only six percent of this figure (about P920,000) was estimated to be sold for cash. If certain items are removed from these figures (e.g. firewood, thatching grass, poles and cow dung) then the remaining items would include those defined as "veld products" according to Dahl (1978) and Economic Consultancies (EC 1985). Of these, less than one percent would be sold for cash. The 1990 total value of these veld products would be about P6 million, with only about P50,000 sold for cash (Dahl 1978; EC 1985:7). The advent of commercial grapple gathering would however increase the value of the sales from veld products in 1990 beyond this estimate.

Taylor and Moss (1983:xiv) estimated that about 4,000 individuals were collectors of veld products in the early 1980s, and they felt that number could be at least doubled if specific projects and markets were organised. Economic Consultancies (EC 1985:10) disagree by believing that not withstanding one or two exceptions, the prospects for commercialisation of gathered plant products are quite poor. They cited such constraints as the heterogeneity of the products, the uncertainty of regular supplies, and the weak modern-sector demand for the individual products of the gatherers.

Most veld products are collected by women or children, and most collectors have little or no education, come from poorer classes and have few other income-generating opportunities (Lee 1979:262; Silberbauer 1981:199; UNIDO 1987:39; Kgathi 1988:120–121; Dorloechter 1989:55; Bishop and Scoones 1994:25). Therefore, although the money they earn is very little, it is quite significant for their households. In Kgalagadi District, for example, only those individuals who are desperately needing cash to purchase basic goods become involved in grapple production (Kgathi 1988:120–121).

15(a). HUNTING

In rural areas of Botswana, especially in the south-west and far north-west, hunting and its bi-products of meat and skins have been very important to rural inhabitants (Landell-Mills 1970:81; von Richter 1970:93; Lee 1979:205). Hunting represented about 40 percent of rural incomes in 1967/68 (Landell-Mills 1970:81) and 40 percent of the caloric diet of some groups (Lee 1979:205). Furthermore, 60 percent of all protein consumed in Botswana was estimated to come from wild animals (Von Richter 1970:94). Von Richter (1970:94) also suggested that 60 percent of the total population in his study area in south-western Botswana in 1965–1967 depended "entirely or to a very large extent" on hunting for their livelihood. He estimated that if the

calculations for the study area were projected for the whole of Botswana, approximately 2.5 percent of the national income in 1967 was accounted for by hunting and the subsequent trade in game-skins. Using figures from Dahl (1978), who inflated 1974/75 RIDS data, and the Department of Wildlife and National Park, Economic Consultancies (EC 1985:11) estimated that in 1984, the total value of the 1974/75 off-take from hunting was about P3.7 million (P1.9 million from trophy hunting, P1.6 million from common and small game, and P200,000 from raw skins). Of this amount, only P714,000 worth of game was estimated to be sold for cash. The majority was consumed or exchanged within the subsistence sector. Based on these 1984 figures, the total value of off-take in 1990 was estimated to be P6.8 million, with P1.3 million sold for cash. FGU (1988a:II.2) estimates that the gross output and added value owing to wildlife taken under licence in 1986 to be some P4.4 million, while P4.3 million is estimated for illegally hunted animals, for a total of P8.7 million. When these figures are inflated to 1990 prices, they are P6.6, P6.5 and P13 million respectively. If it can be assumed that Dahl and Economic Consultancies did not include illegally hunted estimates in their calculations, their P6.8 million estimate comes quite close to the FGU inflated figure of P6.6 million.

The important contribution of hunting to rural livelihoods overall has most likely declined over the years, but many individual households continue to benefit from the activity of hunting, and wildlife resources as a whole appear to be under-utilised (UNIDO 1987:39). In a study conducted in the Chobe Enclave in 1987/88, an estimated 15 percent of the households in the Chobe Enclave win and buy hunting licences in the annual hunting raffle (Kolhoff and Polet 1990:87). However, because ownership of rifles and means of transport is clustered among a very few households, a much smaller portion can be actually considered as households with hunters. Kolhoff and Polet (1990:88) note that a deal is usually made between the licence-holder and the hunter. For example, some hunters will require P100 for each zebra hunted, or the income from the meat and skin will be split in half. Because of these arrangements and the small number of hunters, a hunter can earn a good income from his skill. Several hunters earn as much as P3,000 per season, although the average is about P140 per household per season.[3] This study also found that wealthier households are more inclined to be involved in hunting than poorer households, especially those owning draught power; and hunting is exclusively done by men (Dorloechter 1989:55; Kolhoff and Polet 1990:88).

[3] A season is about five months per year.

Von Richter's south-western study (1970) and Kolhoff and Polet's Chobe Enclave study (1990) fit with White's (1986b) impression for other rural areas in Botswana. He provides evidence that hunting has been typically practised by two different social groups: 1) the poor members of remote settlements for subsistence purposes, and 2) the wealthiest livestock owners who use game for both recreation and additional income.

Interestingly, hunting was entirely left out of three enterprise studies: NADP (1985), SIAPAC (1991)and Daniels and Fisseha (1992). This possibly indicates the decline of hunting in recent years as a source of rural, household income.[4] The lack of coverage of hunting enterprises in these studies also shows the difficulty of obtaining information on hunting because of its legal status. Often the activity is being undertaken illegally, but just as often, the hunters are so confused about the Botswana wildlife regulations that they do not know whether they are hunting legally or illegally (CSO 1976:58; Terry 1991b:49).

More recent financial and economic analysis of hunting options has suggested that wildlife cropping[5] on a small scale is more capital efficient, creates more jobs, and is more socially acceptable than medium- or large-scale cropping activities (EC 1985:40; Barnes 1995:800). Equally, small-scale, family-sized hunting operations in combination with community-based groups, which perform the sharing-out, processing and marketing activities, appear to be more viable than the one-person subsistence hunting model (Barnes 1995:786,800). Barnes (1995:785) further notes that an important issue in any strategy for wildlife cropping is whether subsistence or commercial systems should be promoted. He concludes that while subsistence production plays an important role in food security strategies of the rural poor, commercial production can result in the creation of surplus and capital formation, which both insulates users against destitution and contributes to national development objectives. A final assumption for a viable cropping operation is that some user control over the resource is crucial and, therefore,

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[4] Also, the NADP (1985) and Daniels and Fisseha (1992) studies did not cover geographic areas considered to be significant subsistence or small-scale hunting areas. The SIAPAC study (1991) does say that three percent of all small-scale enterprises are small tanneries. No information is included that breaks down the amount of domestic skins versus game-skins for these tanneries, but the presence of these tanneries does assume that at least some hunting is taking place.

[5] Cropping is defined as the sustained off-take of wildlife from free-ranging populations for subsistence or commercial purposes (Barnes 1995:784).

on communal lands, common property wildlife management by community-based groups is the most appropriate strategy.

Because of these findings, the model included in this thesis will represent a commercially-orientated, community-based project operating on communal lands, rather than an individual one-man, subsistence hunter. Barnes (1995:800) notes that the success of this type of operation is, however, very dependent on both the application of good management skills and the existence of sufficient game densities. To date, one or both factors have been lacking in attempted projects (Cumming and Taylor 1989; NRMP 1991a, 1991b), and Barnes (1995:800) suggests that government should concentrate on these two factors when considering support measures for community-based wildlife projects.

15(b). FISHING[6]

Fishing is obviously an activity restricted to places that have water bodies with fish. In fact, the consumption of fish is considered unusual in Botswana, with the average Motswana never acquiring a taste for fish. Fish are eaten only in places near to where fish are caught. The most common fish are bream (*Oreochromis* spp., *Serranochromis* spp. and *Tilapia* spp.) and barbel (catfish) (*Clarias* spp.), with tigerfish (*Hydrocynus forskahlii*) caught mainly as a sport.

Most often fishing is considered a subsistence activity (and an important source of protein), especially during times of floods when many people are out fishing with baskets, enamel containers, spears and nets. Fishing is considered a serious source of income for only a small number of people (exclusively men) who live near permanent bodies of water (e.g. Okavango, Chobe and Kwando-Linyanti Rivers, and Lakes Liambezi and Ngami before they dried-up). For example, Kolhoff and Polet (1990:85) estimate that 80 men were involved in fishing on a regular basis in the Chobe Enclave, and these 'regular' fishermen earned about P140 per annum. Before Lake Liambezi dried-up in 1985 approximately 300 tons of fish was produced annually, with most of it being exported to Zambia and Zimbabwe. A much smaller portion of fresh fish was sold locally. During most of the 1980s, the main outlet for fish from other bodies of water was the government fishery office in Maun, which bought dried fish from fishermen directly, and

[6] A model for small-scale fishing has not been developed for financial and economic analysis, because the common 'commercial' market for the small-scale fishermen ended in 1990, when the Food Resources Programme stopped.

then redistributed it to clinics and schools throughout the north for the government sponsored supplement-feeding programme (under the Food Resources Programme). Nationally, the programme reached a peak in 1989/90 when P195,270 worth of fish was bought from fishermen. This represented 98 tons (wet weight) of fish for a five-month period. Unfortunately, the fishermen lost this market in late 1990, when the drought was declared over, and the government's Food Resources Programme ended (Merron 1993:134).

Interestingly, fishing applicants made up the bulk of Financial Assistance Policy (FAP) grants during 1980s.[7] Applicants would usually offer their *mokoro* (dug-out canoe) as their portion of the investment and the FAP grant would then finance their other needed equipment such as gillnets, salting barrels, knives and salt (Rogers, pers. comm., 1985). As of early 1991, the FAP programme had assisted approximately 600 individual fishermen throughout the country (Merron 1993:134). The other government financial scheme, which has helped fishermen to obtain equipment, has been the AE-10 programme. AE-10 requires the formation of groups, and throughout the 1980s seven fishing groups were formed and operated like small cooperatives (Merron 1993:134).

16. SEWING

For the purpose of this study, sewing includes such activities as tailoring, dressmaking and sewing school uniforms. Sewn products that fall in the textile category of handicrafts are not included, such as clothes made from hand-printed fabrics, tablecloths, cloth calenders, etc. Across the country in both rural and urban areas, many small-scale producers, mostly women, are occupied with sewing, and the allied profession of knitting and crocheting (UNIDO 1987:15; Morapedi and Jones-Dube 1988:11; SIAPAC 1991:40&70; Daniels and Fisseha 1992:A-12; Groth *et al* 1992:24).

There has been a surge in growth of small-scale sewing firms since Independence. There were 15 new registrations between 1966 and 1980, and a sudden increase from 1981 to 1984 when 36 new firms registered (UNIDO 1987:15). With Groth *et al* (1992:24) reporting a total of 450 firms applying for FAP grants as of 1992, it appears that another 400 firms registered during the period 1985 to 1992. One can only speculate that several individuals have also established themselves over the same period without bothering to register formally or apply for FAP grants.

[7] By number of grants, not value of grants.

Clearly the size and success rate of sewing enterprises varies considerably across the country. At the 'micro' end of the scale, for example, Kolhoff and Polet (1990:93) mention that about 55 women work at sewing individually in the Chobe Enclave, earning only about P50 per annum from their efforts. Though the earnings are very small, these sewers are part of the wealthiest households only. Presumably the cost of a machine, cloth and travel to Kasane to buy the cloth prohibits poor women from partaking. Access to initial training might also be another factor limiting poorer households. Kolhoff and Polet (1990:93)mention that the biggest problem facing sewers is a very limited market, due to limited purchasing power of villagers and the tough competition from imported, ready-made clothes. The same problem has been observed in many parts of Botswana.

17. BAKERIES AND BAKING

Groth *et al* (1992:42) note that village bakeries are a relatively new phenomenon in Botswana (i.e. only coming into existence in the 1980s)and the establishment of bakeries as a village industry indicates a change in social patterns and diet. Usually every village has a few entrepreneurs baking and selling products, such as bread, buns or fatcakes. Even so, the number of bakery enterprises is still quite small. For example in Gomare, 7.3 percent of households were reported to be making baked goods for sale (NADP 1985), which is much smaller than the percentage of households brewing beer (estimates of 20 to 50 percent depending on the village surveyed).

There are basically two types of small-scale bakers found throughout Botswana. One type produces products such as fatcakes or buns cooked in a cast iron three-legged pot over an open fire. Another type bakes standard bread loaves and small buns in a wood-fired oven. Bakeries of this second type are usually only found in villages with 2,000 or more people, because a large enough market must exist to warrant the work involved and to justify the heating of the oven (EC 1985:126). Furthermore, very few small villages have entrepreneurs making bread loaves, usually because cash for purchasing such a 'luxury' item is limited (Kolhoff and Polet 1990:94).

At the smaller end of the scale, the bread loaf bakery might be using the Rural Industries Innovation Centre (RIIC) designed 'appropriate technology' rim oven, which is made from two wheel-rims welded face to face. This oven can produce about 36 loaves of bread per day in four baking cycles (Groth *et al* 1992:54). At the larger end of a small-scale operation, the baker may be using the *Kgotesto* oven, also designed at RIIC. This square oven has the capacity to produce

between 108 and 250 loaves per day, depending on the number of baking cycles (Groth *et al* 1992:54). Typically, three people would be involved in this type of baking enterprise (Groth *et al* 1992:62).

According to Kolhoff and Polet (1990:95), wealthier households tend to be more involved in the baking industry than poorer households. This situation is logical considering the relative high cost of inputs. Those who do engage in bread-baking can earn a relatively large income. Kolhoff and Polet (1990:94) estimate an average of P1,718 per annum for Chobe Enclave bakers. Another survey of 33 bakers by Groth *et al* (1992:61) found that the average income for the owner was P250 per month, but those working at full capacity could earn between P500 and P600 per month, and the average worker earned P140 per month.

18. BRICKMAKING AND BLOCKMAKING

Several types of bricks and blocks for construction are made in Botswana. Traditional sun-baked bricks are usually made from a combination of cow dung, clay and/or anthill soil and water. 'Stock bricks', made from cement, are the most common in the building trade because of their higher strength and resistance to cracks than cement blocks (DIA 1992b:3). Cement blocks are less expensive per volume, but are not as strong. The production of cement bricks by different enterprises varies widely from quite small amounts per annum up to ten million bricks per annum (DIA 1992b:3).

19(a). METALWORK

The category of metalwork covers several different types of activities including welding, blacksmithing, tin-smithing, donkey-cart construction and diamond-mesh fence-making (SIAPAC 1991:40; Groth *et al* 1992:24). All but traditional blacksmiths can be found in rural and urban areas, and the rural art of blacksmithing seems to be dying out. For example, Kolhoff and Polet (1990:93) found only ten blacksmiths working in the Chobe Enclave, earning about P570 each per annum. Many were old men who were about to give up their practice and were not seen to be passing on the skill to the younger generation.

19(b). CARPENTRY[8]

Carpentry businesses, primarily engaged in furniture-making, are found in both rural and urban areas (Morapedi and Jones-Dube 1988:11; SIAPAC 1991:40; Daniels and Fisseha 1992:A-12; Groth *et al* 1992:24). Kolhoff and Polet (1990:92) provide detailed information on the 45 carpenters they found in the Chobe Enclave. In the category of rural carpenters they include all woodworkers including craftsmen who make mortars and pestles, wooden spoons and tool handles, and *kgotla* chairs, along with those who produce tables, chairs, cupboards, etc. They estimate that even though these men practice their skills on an irregular basis, they earn an average of P500 per year. Most of these men come from the middle-income households, and a few from upper-income levels, but none from the lowest income groupings. This makes sense because the initial outlay for proper carpentry tools can be quite significant.

Kolhoff and Polet (1990:93) feel that a "severe lack of purchasing power" in the Enclave greatly limits the demand for locally-made furniture. In Chobe, and in most other parts of Botswana, carpenters must compete with better made and cheaper imports from South Africa.

20. MILLING

Pounding grain by hand with a mortar and pestle has been, and remains, a very common sight in rural Botswana. In the 1980s and early 1990s, many schools had a programme where they hired women to stamp grain by hand for the school meals. This programme fell under the drought relief programme as another labour-intensive activity that could offer a form of employment to the unskilled. In 1990, stampers at schools would earn P65 per month. Work was usually available in rotation so that one person would not work a full year.

Although the labourious task of hand-stamping has always been prevalent in rural areas, even in the 1970s a few households had small grinders and hammer mills, which they let other villagers use for a fee, often paid in grain. For example, the fee for using the grinder was one small basin of uncrushed grain, while 20 cents per bucket of grain had to be paid for the use of the hammer mill (CSO 1976:58).

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[8] A model for small-scale carpentry has not been created for financial and economic analysis. Although there are probably more carpentry workshops in Botswana than metal workshops, it was not possible to obtain sufficient data to develop any model. It is assumed that the financial and economic situation of the two are similar.

At the same time, technology was being developed to establish small-scale sorghum mills especially for the sorghum-growing areas of Botswana. There were two main goals for the development and dissemination of this technology: 1) to release women's and children's time for more productive or socially rewarding activities, and 2) to encourage production and consumption of domestic sorghum, rather than imported maize (Groth *et al* 1992:64). Today there are two types of sorghum milling operations: service and commercial. Service milling is a batch process in which a customer comes to the mill with some bags of sorghum seed. The seed is weighed, processed and returned to the customer who pays a fee for the processing. In contrast, commercial milling is a continual process. The mill purchases grain, which they then dehull, mill and package for sale as a finished sorghum meal (Groth *et al* 1992:66).

In 1991, about 60 sorghum milling businesses operated in Botswana. Of these, 68 percent were small-scale, service-only mills, 25 percent were small-scale commercial/service mills, seven percent were medium-scale commercial/service mills, and less than one percent (only three)were large-scale commercial milling operations (Groth *et al* 1992:66). As of 1991, the existing milling capacity was sufficient to deal with normal sorghum production levels and milling requirements, and the market for sorghum mills was near to saturation.

FOOD PRODUCTION/SERVICE AND REPAIR SERVICES

These two types of enterprises have not been included in this thesis in any detail, nor have cost-benefit models been developed for them. Even though they are income-generating activities that could be undertaken by craft producers, they are quite different from the other mainly 'manufacturing' enterprises that are closer in concept to craft production activities.

The category of food production/service includes several different types of businesses, such as: butcheries, small restaurants/take-aways, and the preparation of *biltong* (dried meat)and *madila* (thick sour milk) (SIAPAC 1991:40; Daniels and Fisseha 1992:A-12). Many different types of repair services exist in rural Botswana, including: shoe, automobile, radio, bicycle, watch, battery and gun repair (SIAPAC 1991:40; Daniels and Fisseha 1992:A-12).

APPENDIX 10.1

THE NON-CRAFT SECTOR: DERIVATIONS OF EXTRAPOLATED DATA AND NATIONAL-LEVEL STUDIES' METHODOLOGY AND CONCLUSIONS

The first section of this Appendix explains the derivation of the figures in Table 10.1 for estimated numbers of enterprises and entrepreneurs working in non-craft, non-farm, MSE or informal sector activities in Botswana. The second section describes the methodology used in the main studies and explains the rationale behind using figures from one study over another. Because none of the studies were without problems in terms of their methodology, no individual study could be chosen as having the definitive answer.

Section 1: Derivation of Figures in Table 10.1, Chapter 10 [1]

Beer-brewing

Most of the traditional beer-brewing takes place in rural areas. Mean percentage of total rural village households that brew beer from five studies was equal to 34 percent (Roe 1981; NADP 1985; Kolhoff and Polet 1990; Bishop and Scoones 1994). Very close to this figure is the 1993/94 Household Income and Expenditure Study (HIES) (CSO 1995:90) estimate that, nationally, 31.8 percent of households involved in some form of entrepreneurial activity, brew and sell beer. One member from each household was thought to be involved in beer-brewing. Therefore, 34 percent of the estimated 163,493 rural households in Botswana (CSO 1988b:5) is equal to about 55,000 beer-brewers, while 31.8 percent of the total number of households estimated in 1993/94 to be 291,610 is equal to almost 93,000 beer-brewers (CSO 1995:90). Most beer-brewing operations are assumed to be one-person enterprises. The more conservative estimate of 55,000 beer-brewers is used here.

Vending/hawking

The 1993/94 HIES (CSO 1995:90) estimated that, nationally, 19.4 percent of households, which are involved in some form of entrepreneurial activity, are engaged in hawing or vending, equalling some 56,000 hawkers or vendors. However, the more conservative estimate from Daniels and Fisseha (1992:A-12) of 10,000 venders/hawkers is used here.

[1] Refer back to Appendix 7.2 for more details on these enterprise types.

Hut building

During an exhaustive quantitative survey in Chobe District, three percent of all households were estimated to have one member involved in building for income creation (Kolhoff and Polet 1990). Three percent of the total estimated rural households (CSO 1988b:5) is equal to about 5,000. Traditional building is assumed to be done by one-person enterprises.

Grass/reed collection

Mean percentage of total rural households collecting grass or reeds, from two studies was equal to 11 percent (NADP 1985; Kolhoff and Polet 1990). One member from each household is believed to be involved in reed/grass collection and sale. The figure of 4,500 was derived by first taking one-quarter of the 163,493 rural households in Botswana (CSO 1988b:5), because it is assumed that only about one-quarter of rural households live in areas accessible to these types of materials. Eleven percent of 40,873 is equal to 4,500. Grass/reed collection and sale is believed to be done mainly by one-person operations.

Other services

Besides the main services of repair and food sales, other common services in Botswana include: renting flats and rooms, miscellaneous professional services, mini-bus/taxi drivers, hair stylists/barbers, traditional healers, and funeral services. The enterprise figure for "other services" of 1,300 is based on the Daniels and Fisseha study (1992:A-12), and the entrepreneur figure of 2,500 is drawn from their conclusion that on average 1.8 people work at each MSE in Botswana (1992:17).

Food processing/service

This type of enterprise includes any type of food other than beer. Typically in Botswana this may mean the preparation and sale of fat cakes, *mophane* worms, sour milk, dried meat, and various cooked meals for take away. The enterprise number of 1,000 is based on the extrapolated figure from the study conducted by SIAPAC (1991). The entrepreneur number of 2,000 is based on the assumption that each enterprise would have an average of two workers.

Repair

This category typically includes repair of shoes, radios, bicycles, tires, automobiles, watches, guns and various small electrical items. The enterprise number is based on the extrapolated

figure from the SIAPAC (1991) study, and the entrepreneur number is based on the assumption that a mean of 1.8 people work at each enterprise.

Veld products collection

The figure of one thousand individuals is one-quarter of the estimated number of people gathering veld products in 1982 (Taylor and Moss 1983). This is based on the belief that only this portion would be selling products to earn a cash income. This figure includes the estimated 400 people who are collecting grapple (Harpagophytum procumbens) for commercial sales (Kgathi 1988).

Sewing

Based on the Groth *et al* (1992:24) estimate from FAP data: some 450 sewing and 87 sewing/knitting enterprises, multiplied by five sewers per enterprise, plus additional one-person informal operations.

Knitting/crocheting

The enterprise number of 600 is based on the average figure from the three national-level studies (SIAPAC 1991; Daniels and Fisseha 1992; Groth *et al* 1992). The entrepreneur number of 1,800 is based on the assumption that each enterprise would have an average of three workers.

Fishing

Based on approximately 600 individual fishermen who received FAP grants by the end of 1990, and seven fishing groups receiving funding through the AE-10 programme (Merron 1993).

Hunting

None of the national-level studies included hunting. Therefore, these figures are based on 1986 data on hunting licences sold/issued (FGU 1988a:II.2): 11,899 'single game licences' that were sold to citizens divided by four, based on the assumption that a maximum of four licences could be bought by one hunter, plus 552 'special game licences', plus 591 'small game licences', equals approximately 4,000 hunters. Citizen hunters buying 'bird licences' (918) are not included, based on the assumption that they may be the same people as those purchasing 'small game licences', and most birds are probably consumed rather than sold. Illegal hunters are also not included because the data available on these numbers vary widely, from 25 percent to 400 percent of the legal numbers of hunters (FGU 1988a:28). The number of enterprises is based on

the assumption that hunters group themselves together in production units, or family or clan units, or that licence holders give or sell their licences to others who do the actual hunting.

Blockmaking/brickmaking

Based on the Groth *et al* (1992:24) estimate from FAP data that there are some 300 block/brickmaking enterprises in Botswana, multiplied by an estimated five workers per enterprise.

Carpentry

Based on the Groth *et al* (1992:24) estimate from FAP data that there are about 245 carpentry workshops in Botswana, multiplied by an estimated three workers per enterprise.

Bakery

Based on the Groth *et al* (1992:24) estimate that about 175 bakeries exist in Botswana, with the median number of people working calculated to be three.

Metalwork

Based on the Groth *et al* (1992:24) estimate from FAP data that there are some 125 metalworking enterprises in Botswana, multiplied by an estimated three workers per enterprise.

Milling

Based on the Groth *et al* (1992:66) estimate that 56 mills operate in Botswana, with the median number of people working calculated to be 3.0 and the mean to be 5.0.

Section 2: Methodology and Problems in the Main Studies

The total estimated figure of 81,900 enterprises in Table 10.1 is considerably higher than any of the total extrapolated figures from the three studies undertaken on small-scale enterprises (SIAPAC (1991) = 8,200 rural, non-craft enterprises; Groth *et al* (1992) = 2,100 rural, non-craft enterprises; Daniels and Fisseha (1992) = 30,000 non-craft, rural and urban enterprises).[2] On

[2] Daniels and Fisseha (1992:11–13) extrapolated figures come the closest to these figures. They estimate a range from a **minimum** of 30,000 enterprises and 54,000 entrepreneurs to a **maximum** of 48,000 enterprises and 88,000 entrepreneurs.

the other hand, the figure of 94,200 entrepreneurs is about half the CSO's estimate of 186,700 people employed in the informal sector for 1984/85 (quoted from the CSO Labour Force Survey by Alexander 1991:42). Figures for individual enterprise categories also varied widely across the different studies. These discrepancies obviously require some consideration and explanation before the data in Table 10.1 can be considered meaningful. As mentioned above, none of the studies were without methodology problems. Rather than accepting all figures from one study, a rationale analysis had to be made to choose a figure for each individual enterprise category.

SIAPAC (1991) conducted a quantitative survey **in rural areas** by interviewing 900 entrepreneurs representing 1,089 enterprises (only the data from the 764 **non-farm enterprises** were used for this thesis). Their methodology insured that the entire country was covered, even very remote areas. They randomly selected 30 clusters from a list of all rural communities (**not** census enumeration areas (EAs)), using an equal probability sampling design. They then fully enumerated all agricultural, agricultural processing and industrial enterprises within each cluster. From this enumerated list, they randomly selected 30 enterprises from each of the 30 clusters, for a total of 900 enterprises across the 30 clusters (SIAPAC 1991:3).

However, SIAPAC was specifically requested by the client not to cover beer-brewers or alcohol sellers. Because it was thought that traditional beer-brewers make up a large part of small-scale or informal rural industries,[3] the absence of data on beer-brewers, especially, weakened the validity of the total extrapolated figure for all enterprises and entrepreneurs. Because the SIAPAC study concentrated on enterprises that manipulated raw materials (i.e. manufacturing or repair), vendors/hawkers and 'other services' were also not included in the SIAPAC study. The absence of these figures did not, however, undermine the accuracy of the figures for the other specific enterprise categories that SIAPAC studied. To compare the validity of this thesis' extrapolated total figure and SIAPAC's, the estimates derived for this thesis from other sources for beer-brewing, vendors/hawkers and other services can be added to the SIAPAC estimate, as follows:

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[3] For example, the 1993/94 HIES indicated types of enterprise activities, in order of frequency, conducted by households in Botswana (CSO 1995:90). The study estimated that, nationally, 31.8 percent of households involved in some form of entrepreneurial activity, brew and sell beer. This equates to almost 93,000 beer-brewing households.

SIAPAC's total rural estimate of enterprises = 16,000,
minus their estimate of 3,000 craft production enterprises,
minus their estimate of 4,800 farm-based enterprises = 8,200.

8,200 rural, non-craft, non-farm enterprises,
plus 55,000 beer-brewers, 10,000 hawkers/vendors, and 1,300 'other services' = 74,500.
81,900 enterprises in Table 10.1,
minus 74,500 = 7,400 enterprises ....

which is a reasonable estimate of the number of urban enterprises found in Botswana because urban enterprises are estimated to be about 32 percent of all enterprises by Daniels and Fisseha (1992:A-13); that is 32 percent of 30,000 urban and rural enterprises equals 9,600 urban enterprises.

Daniels and Fisseha (1992:A-11) interviewed 1,243 entrepreneurs **in both urban and rural locations**. Their study did cover beer-brewers, which they extrapolated to reach an estimated number of almost 9,000. This 'national' figure dramatically underestimates the numbers when their results are compared with the detailed area-specific studies of Roe (1981), NADP (1985), Kolhoff and Polet (1990) and Bishop and Scoones (1994), and the HIES study of 1993/94 (see footnote 3). The reason for this is clear once their methodology is examined. Although Daniels and Fisseha covered rural areas, their rural sample was only 36 percent of the whole, while they estimated that rural enterprises make up 68 percent of the total. Furthermore, their rural areas were only along the 'line-of-rail', failing to survey entrepreneurs in Chobe, Ghanzi or Kgalagadi Districts, and the only area covered in Ngamiland District was Maun. This occurred because they took a random sample from all the census EAs. Because there are more EAs in high population areas (urban areas and along the 'line-of-rail') there is more of a chance that more of these areas will be selected during a random selection of EAs. This approach effectively ignored a huge area where traditional activities still take place. Thus, their numbers of beer-brewers, veld product collectors and builders are certainly too small. Furthermore, grass/reed collecting, hunting and fishing enterprises were not found at all by them.

If numbers for grass/reed collecting, hunting, and fishing enterprises are included, and more enterprises are added for beer-brewers, veld product collectors, and builders, the Daniels and

Fisseha total extrapolated figure of some 30,000 enterprises comes close to the figure in Table 10.1 of 81,900:

> 30,000 - 700 (their estimate of craft producers) = 29,300
> plus grass/reed collecting (4,500), hunting (400) and fishing (600) = 34,800,
> plus more beer-brewers (40,000), veld product collectors (700), and builders (4,500) = 80,000.

The third study, Groth *et al* (1992), extracted data from FAP records and a few area-specific studies and producer surveys to arrive at estimated national figures **for rural areas only**. Obviously not all enterprises have applied for FAP grants. Furthermore, they have covered only manufacturing enterprises leaving out beer-brewing, grass/reed collecting, building, hunting, fishing and vending/hawking. Therefore, their total extrapolated numbers for rural enterprises, once the craft producers are also removed (5,221-3,118 = 2,103), are assumed to be grossly underestimated. However, where their study appears to be valid and reliable is in the manufacturing categories that they fully concentrated on (mills and bakeries), and in the specific enterprise areas known for applying for FAP grants (sewing, knitting/crocheting, block/brickmaking, metalwork and carpentry).

Regarding the total number of entrepreneurs, the CSO estimate of 186,700 informal sector people covers all types of informal activities including those based on agriculture and, presumably, handicrafts. Table 10.1 does not include agricultural activities nor crafts. Estimates on the percentage of agricultural, informal activities in relation to all informal activities range from about 30 percent (SIAPAC 1991:40) to about 76 percent (Labour Force Survey 1984/85 by CSO as cited by Alexander (1991:47). If the figure of 94,200 entrepreneurs from Table 10.1 has 5,120 craft entrepreneurs added to it to reach 99,320 non-farm entrepreneurs, a figure of 87,380 remains for agricultural entrepreneurs. This figure equals 47 percent of all informal entrepreneurs, or almost half-way between the two estimates for agricultural entrepreneurs.

ANNEXES

PUBLISHED ARTICLES
SUPPORTING TEXT

Botswana Notes and Records *Volume 18*

The Anatomy of an Ngamiland Basket

by M. ELIZABETH TERRY*

Few people, even avid collectors, realize the amount of time and work involved in the intricate art of basket-making. Most believe a basket can be whipped-off in a few hours and that a woman will weave for pure pleasure, to pass the time, or to have a little extra money for frivolous expenditures. This is just not the case.

Weaving is the work of a very skilled person who has learned her craft at an early age and has taken ten to fifteen years to perfect it. An average size basket (30 centimetres in diameter by 7 centimetres in height) will take typically twenty-five hours of solid weaving to complete. Slower weavers can take up to forty hours to make the same size basket. These figures do not reflect the amount of time and effort involved in the collection and preparation of the raw materials.

Almost all weavers make baskets to earn money — money that is needed to support their families, to buy food and clothing, or to pay school fees. The work must be sandwiched in between other daily tasks such as weeding the fields, pounding grain, cooking, and caring for children. Fortunately, most women skillfully manage to combine their weaving time with these other tasks. A basket can be woven while a baby nurses at the breast, while the weaver is on the lands watching for birds that will destroy her crop, or while she socializes with friends and family. Nevertheless, weaving is difficult and tedious work. Women often complain about pricking their fingers with the awl that is used to weave. After a day of almost constant weaving, a woman's back and neck will be quite sore.

Traditional Use and Skill Aquisition

Although most baskets today are made for sale, they can be seen in use in the compounds and lands areas of the people. Open baskets are used for winnowing grain after threshing and after pounding. They are also placed on the head and used to carry belongings. Closed basket are occasionally still used to store such items as pumpkin or melon seeds. Because baskets are still being used for traditional purposes, the poor ones rejected by the commercial market can fortunately still be put to use in the weaver's home.

Most weavers are taught basketry by their mother or grandmothers. The learning process is done mostly by observation and trial and error. A young girl will watch her mother and other women weave. At some point, maybe as early as seven years of age, she will attempt a basket herself. She will work on the basket for a while, and then a skilled weaver will take it from her and continue to weave with the girl observing. The "student" will take it back, try a few more rows, and the informal process continues. Typically, the first few basket attempts are thrown away. Four or five trials may be produced before a girl accomplishes a final product of merely decent quality.

Basket Styles

There are two basic styles of baskets made in Ngamiland that are desired by collectors. One is the bowl-shaped or open basket called *seteko* in Setswana and *thikote* in Thimbukushu. The closed basket is the other, called *setotwana* and *thikongo* in Setswana and Thimbukushu respectively. Closed baskets may be made with or without lids. When a woman weaves an open basket, she works with the concave side of the basket towards her. The opposite is true for a closed basket. The side held toward the weaver usually ends up looking better than the opposite side. Therefore, the "right" side of an open basket will be the inside. Conversely, the outside of a closed basket will usually look better than the inside. In Ngamiland, these two styles of baskets are commonly constructed by using one of two different weaving methods. One method utilizes a coiled construction where each individual row is wrapped with the weaving material. The other method is an overstitch construction where the weaving material is wrapped over two rows at a time, alternating the two rows with each stitch.

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Collection of Weaving Materials

Before beginning the task of weaving, the producer must first collect the necessary raw materials. In Etsha, this means a five to six hour journey just to reach the area where the raw materials can be found. For Gomare weavers, the one-way trip will take about three to four hours. These trips are a far cry from being a pleasant walk into the countryside.

On one particular trip from Etsha, the author accompanied a group of about fifteen women. Typically, the women will travel in groups this size for safety reasons and companionship. Over sixty percent of the trek was through water anywhere from ankle deep to shoulder height. Often the women would trip and fall into deep, unseen holes or over dead papyrus stalks laying on the floor of lagoon beds. A constant watch was needed to keep an eye out for the potentially lurking crocodile. The rest of the journey was through tracks of deep sand.

Upon reaching the site of the natural resources, the women immediately began to collect the materials. After two hours of cutting and a brief thirty minute rest, the return journey was started. This time the trip was much more difficult as everyone was laden down with a bundle of palm and some roots and bark for dyeing. The bundles were approximately forty-five centimeters in diameter and one meter in length and were carried upon the women's heads. The group reached Etsha about five hours later, just as the sun was setting.

The main ingredient of the famed Ngamiland basket is *mokola* palm *(Hyphaene ventricosa)*. Basket making material is not taken from the tall adult trees. Rather, the young (seven to ten years old) plants are utilized when they are typically sixty centimeters to two metres in height and bush-like in shape. The part taken for basketry is the new growth that has not yet fanned out, called *pelo* (heart) in Setswana. This new growth may be from forty to one hundred centimeters in height and is much softer and more pliable than the older, tougher fanned-out part. The women who cut the *mokola* palm properly, using the selective method, will take a knife, reach into the larger fanned-out leaves, select an individual *pelo*, and cut it off at the base. If only one third of the *dipelo* are cut, the plant is not terribly shocked and will continue to produce more *dipelo*. For this selective method to be successful, another collector coming along must recognize when a plant's *dipelo* have been recently cut and refrain from taking off additional leaves. Unfortunately, some collectors either do not recognize this distinction or see it but are unwilling to refrain from further cutting.

Far worse is the situation where some collectors are still using the non-selective method of harvesting. This technique consists of wacking off the whole plant at its base with an axe or hoe. Apparently this method has been used quite often in the past as it simplifies the collection process and allows the person to get more *dipelo* while avoiding the sharp thorns on the stalks of the plants. This harvesting technique was reasonable when baskets were only made for traditional use and there was an unlimited supply of palm. Now that baskets are being made for sale and enormous quantities of palm are needed, the technique is tragically reducing the production capacity of this much needed natural resources. Fortunately though, weavers are now realizing the negative impact, and through educational sessions, more and more are turning to the proper method of selective harvesting.

The other natural resources essential to Ngamiland basketry are the materials used for dyeing the natural cream-coloured palm fibre. Three principle vegatable matter are utilized: the roots of the *Euclea divinorum* tree *(motlhakola* in Setswana and *mushitonda* in Thimbukushu), the roots and/or bark of the *Berchemia discolor* tree *(motsentsila* in Setswana and *mukurete* in Thimbukushu), and the leaves of a shrub called *mohetsola* in Setswana. *Mohetsola* is a member of the *Indigofera* family, but the species has not yet been identified.

Motlhakola roots produce a rich dark brown colour. *Motsentsila* creates a reddish-brown colour in various shades depending on the dyeing time, on the amount of dye material, and on whether the roots or bark are used. The roots produce almost a maroon shade, while the bark makes the palm rust-coloured. The *mohetsola* leaves produce a light purple or mauve tone. The use of this purple dye appears to be relatively recent as few baskets were seen woven with it before 1985. These days approximately fifty percent of Gomare baskets and ten percent of Etsha baskets have *mohetsola*-dyed palm woven into them.

Besides these three commonly used dye materials, a few others have been cited as being utilized. In Etsha, one occasionally used dye comes from the stalk of millet or sweet reed where insects have deposited a red colour on the husks. When the husks are placed in water with palm fibre, the palm will become light pink in colour. Bark of the *motsaudi* tree *(Garcinia livingstonei)* is said to produce a light orange colour, while *lethajwa* roots create a light brown shade. Finally, water discoloured by rust (chains or tins left in water) can turn *mokola* various shades from grey to almost black.

Additional natural resources necessary for basketry are the raw materials used to build the inside or core of the individual basket coils. Most Hambukushu weavers of Etsha use *Eragrostis pallens* grass, called *muhonyi* in Thimbukushu. In Gomare, the Bayei weavers most often build the core of their baskets with strips of *mokola* palm taken off the outside edges of an individual leaf. These special strips are called *ditsitsiri*. Besides using the grass and palm, both tribes will also use a vine *(motsoketsane* in Setswana, *dighuruwe* in Thimbukushu, and *lexhi* in Seyei). This vine is used for the core of a basket which is constructed with the overstitch method of weaving.

To collect *motlhakola* and *motsentsila* roots, a hole is dug at the base of a tree, usually with a hoe, but sometimes only with the hands. Then from one to ten roots are cut with a hoe or an axe. If the bark

of the *motsentsila* tree is desired, the collector will scrape the tree trunk with an axe or peel off the bark with her hands. Either a complete patch (about 30 centimetres by 60 centimetres) is removed or bits of bark are taken off the entire trunk.

Inevitably, as with *mokola* palm, the collection procedures for dye materials cause damage to the trees. During a 1982 study of the Etsha area, consultants determined that sixty percent of the total population of *motlhakola* (using a representative sample of 14,17 hectares) had at least some damage done to the roots (i.e. from 25% root removal to complete uprooting). Eighty percent of the *motsentsila* tree population also showed some root damage. For the *motsentsila* trees also, eighty-five percent of the population showed some bark damage (i.e. from 25% bark removal to dead trees caused by total bark removal).[1]

Fortunately, the gathering of *mohetsola* leaves is much easier and has had no apparent negative impact on its growth. The collector simply pulls off the leaves one branch at a time with her hand, usually leaving the leaves on some of the branches.

As for the grass and vine, these materials are typically cut with a knife or sickle. Most are found in good quantities, with depletion problems only occuring during times of severe drought when cattle are forced to eat them.

Preparation of Materials

After the raw materials have been collected, they must be prepared before weaving can begin. Even if the *mokola* palm is not going to be dyed, just left in its natural cream-coloured state, it still needs to be boiled in water first. This boiling action stops the natural decomposition process and prevents the leaves from becoming too dry and brittle. A weaver will place the *mokola* leaves into a three-legged pot with water and boil them for about thirty minutes. She will split the leaves into thinner strips and place them out in the sun to dry. If she wants to dye the leaves, she prepares the materials by first splitting the palm leaves into thinner strips. She then removes the bark from the roots of the dye trees by striking the roots with a large object, such as an axe handle. Then, whether the root bark or the tree trunk bark is to be used, both must be pounded or crushed first with a mortar and pestle. About one Kilogramme of dye material is needed for one kilogramme of palm leaf weaving material. The pounded dye material and the palm fibre are then placed into the cast iron pot, covered with water, and left to boil for an hour or two until the desired shade is obtained. Once the boiling process is completed, the palm strips are laid out in the sun to dry or used immediatley. The dye bath can be used again with more palm fibre to create a lighter tone. To dye palm strips with *mohetsola* leaves, the leaves are simply crushed with the hand and boiled with the palm material for about one hour.

Little effort is needed to prepare the grass that will be utilized for the core of the coils. The grass is just placed into thin bundles with the bottom ends cut uniformally. To prepare the vine, a weaver will sit on the ground with her legs stretched out in front of her. She then places a coiled-up bundle of vine over one foot, pulls a length of vine towards her taughtly, and scrapes off any rough spots with a knife, trying to make the entire strip of vine equal in diameter.

Weaving Equipment

Final preparation for weaving consists of gathering together all the necessary tools. Fortunately, only very basic equipment is needed for weaving baskets: a container for water, an awl (called *lemao* in Setswana and *muyino* in Thimbukushu), and a razor blade. The awl consists of a sharpened piece of metal inserted usually into a wooden handle. However, a variety of other objects may be employed. In Gomare, empty gun cartridges, found around the area where cattle are slaughtered, are often used for handles. Etsha weavers have put to use such diverse objects as school compasses, large nails, and coil springs. Even the headlight knob off of a Toyota Land Cruiser was seen adapted as a handle. Apparently, the traditional material for the awl was a sharpened piece of bone, but this substance is no longer seen being used today.

Steps in Weaving

Now that all the materials and equipment are ready, weaving can commence. A conscientious weaver will first wash her hands. Next, she will place a few strips of palm into the container of water to make them moist for weaving. Some weavers in Gomare say that they add maize to the water to make the hard Gomare tap water softer and to make the natural coloured palm even whiter. If available, rain water often will be used instead of tap water.

Even if a woman is producing a coil basket using grass as the core, she begins with *ditsitsiri mokola* for the first few coils. *Ditsitsiri* is needed at this stage, because it is more flexible than grass and can be more easily molded into the beginning coiled rows which are quite small in circumference. The weaver will begin the basket with one of four or five different types of construction methods. After seven or eight coiled rows are woven, the weaver will begin to add pieces of grass, inserting a few individual strands at a time until the inner core becomes entirely grass. As the weaver works, she will continue to insert pieces of grass so that the coils will remain the same size throughout the entire basket. For baskets constructed with *ditsitsiri* for the core, the *ditsitsiri* is simply utilized right from the start to completion. With vine-built baskets, the vine is also put to use right from the beginning, but there it is whittled down to a very slender dimension, gradually becoming thicker as the basket reaches the seventh or eighth row.

The weaving or wrapping of the coil is done by inserting the awl into the previously wrapped row in order to pierce a small hole. A strip of *mokola* is then inserted into the hole and brought around the core material, pulled tightly, and made ready to be

placed into the next pierced hole. While the palm strip is being brought around, the awl is either held deftly in the hand or dropped in the lap of the weaver. During this process, a few strips of palm at a time soak in the container of water to ensure that they will be pliable when needed for weaving. The weaver also dips her fingers into the water after every four or five wraps to keep the working area moist.

The basket is finished by gradually reducing the amount of grass or *ditsitsiri* strips on the last row or by whittling down the end piece of vine. This reduction in thickness of the last ten or so centimetres makes the final part so thin that it virtually blends into the previous row if carefully wrapped. The final step of basket making occurs when the weaver carefully examines the entire basket and trims off any straggly bits of palm with a razor blade or her teeth. Sometimes she will wash the basket with soapy water or milk to clean off any dirt that may have accumulated during the weaving process and then lays the basket out in the sun to dry.

Basket Designs

Designs are made on the baskets by weaving dyed lengths of palm into the appropriate places to create the desired effect. Varying the weaving stitch will also create designs or texture. For example, an "overstitch" (one stitch over two coils) can be woven over parts of a coiled constructed basket, creating an embroidered effect. Although this technique does enhance the artistic quality of the basket, its original purpose was to make the basket stronger and to provide a suitable surface so that grain could adhere to the basket during the winnowing process.

Most weavers know about three or four designs, although some claim to know up to ten or more. Designs are sometimes "one-off", created from an individual weaver's imagination. Designs can be pictorial, abstract, or geometric and often come from observations of nature. For example, Hambakushu weavers in Etsha will often create pictorial designs with goats, huts and people. Malcolm Thomas, the Etsha Cooperative Manager and Botswanacraft buying agent, once saw a basket with several goats and a boy woven into it. The boy was situated over the goats and held a lead attached to one of the goats. The weaver explained that this design commemorated her son going out to watch over the goats for the first time. Thomas queried the woman, "Why does the boy stand over the goats?" The woman replied, "My son is better than the goats. He should not be on their level."[2]

Other designs taken from observations of the environment are more abstract in pattern, but still have meaning or names attached to them. Some examples of this type of design include: "Knees of the Tortoise", "Flight of the Swallow", and "Urine Trail of the Bull". Many of these designs were originally seen on beadwork — traditional skirts or aprons fabricated with black and white glass beads — and then re-adapted for basket weaving.

Although many designs have names or meanings attached to them, very few weavers claim to know where the designs first originated. They say that they have "just been around for a long time" or that they only learned them from their mothers or grandmothers. Many weavers are even confused about the naming of the designs. For example, two common designs are found in Ethsa, both of which have two completely different names or meanings attached to them. One particular design is called either "The Swallow's Tail" or the "Yoke of an Oxen", while the other is sometimes refered to as "Knees of the Tortoise" or "Tundimbe" (the Thimbukushu name for a clay beer pot). Because of this type of confusion, one might assume that giving names to designs is actually more important to a person marketing or buying baskets than to the weavers themselves. In the final analysis, most weavers produce certain designs because "they are the only one I know," because "Thomas (the buyer) likes the", or because "they are in my head and in my heart".

CONCLUSION

In conclusion, basket making is a precise skill, acquired at an early age, and practiced and improved over time. Difficulties and problems are inherent to basketry, particularly during the raw material gathering phase. Much time and effort is required to weave the baskets. Women produce baskets to earn a cash income, in order to feed and clothe their families. Therefore, anyone buying baskets, whether they be the head of a marketing or retail outfit or a customer in a shop, should clearly be aware that what they are buying is an object made by hand from limited natural resources by a highly skilled and knowledgable person. With this notion in mind, the purchaser should realize that the basket must be priced equally to the value of similar highly regarded objects.

NOTES

1 Cunningham, T. and Milton, S.J. "A Survey of Plant Resource Utilization by the Botswana Basket Industry in the CFDA Ngamiland" Unpublished, July, 1982, pp. 25 and 27.

2 Conversation with Malcolm Thomas, Etsha Cooperative Manager and Buying Agent for Botswanacraft, Etsha, 1984.

Cutting "mokola" plam

Dyeing "mokola" palm strips with "motlhakola" roots

Splitting "mokola" into strips

Weaving an open basket

Close-up of basket weaving

Etsha weavers with their "Forehead of the Zebra" open baskets

Trimming straggly ends off an open basket

Etsha weavers waiting to sell their baskets at Botswanacraft

M. Elizabeth Terry & Anthony Cunningham

THE IMPACT OF COMMERCIAL MARKETING ON THE BASKETRY OF SOUTHERN AFRICA

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THE IMPACT OF COMMERCIAL MARKETING ON THE BASKETRY OF SOUTHERN AFRICA

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Introduction

Perhaps more than any other African craft, basketry represents the finest blend of African environment, culture and technology. In the pre-colonial past, baskets reflected the life-style of the hunter-gatherers, pastoralists, fishing communities and agriculturalists who made them. Permanent settlement and crop production led to the finest development of a basketry tradition amongst the agriculturalists. Baskets were used in virtually every part of the food production cycle - in planting and harvesting, transport, storage, food processing, brewing and drinking beer and serving foods. In constant use, baskets seldom lasted more than a few years and with rapid urbanisation and cultural change, particularly since the 1960s, some basket styles and skills of past centuries have disappeared without trace.

During the 1970s, however, came a dramatic increase in international appreciation of African basketry as an art form. Export of African baskets to collectors, interior designers and museums in the United States, Europe and Australia boomed and continues to increase. Commercial marketing and an increase in tourism over the past two decades has had a tremendous impact on the basketry of southern Africa. Basketry production by private entrepreneurs has expanded considerably to meet the demands of the commercial market and handicraft production has been encouraged as a cottage industry in rural areas due to the attractive combination of low capital input and use of locally available resources and traditional skills (Cunningham 1987). Along with the increased production there has been a rapid, associated change in styles, designs and availability of raw materials. Arguably, some of these changes are positive while others are negative, but there is no denying that commercialisation has had a significant impact on basketmakers and their product.

This paper presents an overview of basket production over the past two decades in southern Africa, highlighting the effect that commercial marketing has had

on the people, their products and the plants. Specific examples from the countries of Botswana, Lesotho, Mozambique, South Africa, Swaziland and Zimbabwe are given to illustrate these factors (see map, Fig. 1).

Fig. 1 Map of southern Africa with small villages denoting major areas of basketry production.

Benefits to Basketmakers from Increased Production

Production has increased tremendously since 1970 when more and more people started to make and sell baskets to meet the demands of the commercial market. The development of commercial handicraft industries throughout the 1970s and 1980s has provided a source of much needed cash income to the producers and their families. The majority of basketmakers in southern Africa fall into at least one of the following categories: low income; living in rural or very remote areas; female and

often female head of household; subsistence agriculturalist; owning few or no cattle. For most basketmakers, cash income, if available at all, is obtained through sporadic sources such as the sale of beer, grain, bread or thatching grass; casual labour or employment on public works; and remittances from other family members. For many, the only significant and consistent source of cash income is through the production and sale of handicrafts (Terry, in prep.).

A variety of examples across southern Africa can be given indicating the contribution of the basket industry to employment and income generation (see Fig. 1 for localities). In Botswana, commercial buying started in early 1970 in Ngamiland District, the northwesternmost district. In that first year, approximately P1,000 (about £300) worth of baskets was bought from a handful of women. Two decades later in 1992, an estimated P200,000 (£60,000) was distributed to approximately 2,000 women in the same area (Terry, in prep.). Basketmaking is usually done in addition to other household activities and agricultural work with considerable variations in production levels and income for individual producers. In Ngamiland, for example, the average annual income from basketmaking was estimated to be P140 (£42) in 1985, but a few individuals earned as much as P1,000 (£300) per annum from basketmaking (Terry 1986:55). Across rural Botswana during the same year, the average household income was estimated to be P1,600 (CSO 1988:5), indicating that in some cases an individual basketmaker could make a substantial contribution to her family's welfare. In fact, over 20% of the producers in Gomare, Botswana say that basketry is their only source of cash income and an overwhelming amount (86%) claim that their most significant source of cash income comes from basketry (Terry 1986:53). One basketmaker from Danega near Gomare has stated, "In the old days we used to be like slaves for other people - fetching water and doing other small jobs - now we can make baskets, sell them, and be independent" (Terry, in prep.). Farther north, one Etsha producer has emphasised the importance of basketry by saying, "with basketmaking, I know my children will not go hungry" (Terry, in prep.).

Before the advent of intensive commercial purchasing in 1989 in the Chobe Enclave area of Botswana, only about half (approximately 60) of the people who

knew how to make baskets were actually producing them for their own use and a small commercial clientele. In common with many rural communal areas of southern Africa where opportunities to earn cash income are limited, the revitalisation of craft production and marketing was strongly recommended (Terry 1988). In the mid-1970s basket purchasing in Chobe by Botswanacraft averaged P800 (£240) annually. With the placement of a volunteer handicraft advisor in the Chobe Enclave, production had increased to include almost 170 basketmakers with at least 1,000 baskets purchased in 1990/91 and P7,780 (£2,300) distributed amongst the basketmakers. One Chobe producer has described the benefits: "We are self-employed and we send our children to school from what we get from baskets (Terry, in prep.).

At least 7,500 people are estimated to be involved in the craftwork trade in the KwaZulu/Natal area of South Africa (Preston-Whyte 1983). The Vukani Association which provides marketing assistance to producers in Natal increased its turnover over tenfold in ten years from R11,200 (£2,500) in 1973 to R131,000 (£29,000) in 1982/83 (Davis 1982; Preston-Whyte 1983). The sevenfold increase in turnover over a six year period for Ngezandla Zethu which buys from producers on the Maputaland coastal plain is indicative of the boom in craftwork sales throughout southern Africa (Cunningham 1987:264).

In Zimbabwe, basket producers are mainly found in the Kariangwe area in northwestern Zimbabwe, at Matobo (formerly Matopos) and Bulawayo in the southwest and in Mashonaland East. In some areas such as Matobo and Kariangwe, baskets are now the major source of cash income because there are few options, such as agriculture, available (Jones 1987:16). For those basketmakers in other areas who can obtain income from agriculture-based sales, handicraft sales take over in importance during drought years.

As an indication of the increase in commercial marketing in Zimbabwe, the Tonga women in the Zambezi valley area make a good case study. They have been producing baskets for commercial sale since 1984. About 20 weavers were selling at that time. By 1989, over 200 women earned an estimated Z$36,000 (about £4,000) or

an average of Z$180 (£20) per year. With the producers' household expenditures averaging Z$360 (£40) in 1987 in that area, income from basketmaking makes an important contribution (Jones 1987:17).

Basketmaking in Lesotho remains relatively traditional in the Highlands, but has become quite commercial in the urban areas, such as Maseru. Although no overall data are available on the numbers of producers or income levels, trainees at a recent basketmaking workshop described their specific situations (Sotho basketmakers, pers. comm. 1992). Basketmakers in the villages of Thaba Tseka and Leribe weave and sell, on average, one basket per month. Some of these baskets can fetch as much as R15 (£3.30) creating an annual income of R180 (£40). In the capital, Maseru, about 15 basketmakers sell their baskets in front of one of the main hotels. Some of these producers can sell R50 (£11) worth of baskets in what they call a "bad" week and as much as R300 (£66) in a "good" week.

Except for a few, commercialisation of basketry has been less obviously beneficial for Swaziland basketmakers. Baskets produced and utilised traditionally in rural areas for collection, storage and even as nests for hens have been made from various grasses, banana fibre and sisal. While all types of baskets continue to be produced, the commercial export market has shown great interest in the attractively decorated coiled sisal baskets. Unfortunately, the preparation of sisal is very labour-intensive and time-consuming, leading to poor financial returns (Maseko 1990:41). However, because of the interest shown by the export market, sisal baskets are the only product line in which prices to the producers have actually increased (Loughran and Argo 1986:12). If the use of appropriate technology decorticating machines which are used for the preparation of the sisal in East Africa could be introduced to southern Africa, then actual returns to the basketmakers might also increase.

During the late 1960s and early 1970s, craft producers benefited from Mozambique's significant tourist industry. After years of war, communities are desperately needing to rebuild themselves. In a recent assessment study, Lee (1991) concludes that the benefits which would evolve from a coordinated handicraft develop-

ment and marketing project (including basketry) would be felt not only in the foreign exchange earned for Mozambique, but also in terms of the creation of regular employment and income generating opportunities for craftspeople.

The development of the basket industry in Namibia has been encouraged and assisted since the recent Independence. Throughout northern Namibia, the sale of baskets is providing income to rural women and keeping traditional skills alive. While income to basketmakers could be improved through an expansion of market links, even at present prices income from basket sales is an important contribution to rural households in an area where the average annual per capita income is R255 (about £55) (Marsh and Seely 1992:36).

In all the areas of southern Africa where basketry production is found, the money earned from basketmaking is not considered to be extra money to be spent frivolously. Rather, it is used to buy food, clothing, basic household goods such as soap and paraffin and in some countries to pay school fees. At the same time that commercial basketry is an important source of income, the development of the industry has helped to keep a variety of cultural traditions alive. By encouraging the production of baskets and placing a monetary value on the final product, basketmakers realise the importance of what they are doing, benefit financially from their work and carry on with production. Without this social and financial recognition, producers who may no longer need the basket in their everyday lives would stop basketmaking (Terry, in prep.).

Changes in Styles and Shapes

While the encouragement of basketmaking for the commercial market has kept the tradition alive, commercialisation has affected basket styles and designs. In the agricultural lives of most rural African people, specific basket shapes were needed to undertake specific tasks. While some of these styles are still produced for their intended use, many traditional forms have been re-adjusted to fit the needs and interior decorating ideals of "western" homes.

Many examples can be noted of this evolving adaptation to an expanding mar-

ket. Twilled winnowing baskets commonly woven throughout southern Africa and fine coiled winnowing baskets found in northern Namibia and northern Botswana are often converted into useful trays. Different basket weaves and stitches create flat shapes for the fabrication of table and drink mats. Beautifully woven grinding mats from Zimbabwe can also be used as table mats, especially if they are elaborately decorated (Plate 1). Traditional storage containers of various shapes and sizes are made more colourful and altered in shape to suit the European home. Large grain storage baskets have become laundry baskets (Plate 2) . Shona *dende* and *tswanda* carrying baskets are sold for use as waste paper baskets. A variety of bowl-shaped household baskets - including the Tonga *ncanya* and *mayalo*, the Ndebele *isitsha* and *incebetu*, the Yei *diteko*, and the Zulu *imbenge* and *unyazi* - are now holding fruit and vegetables in urban homes. The best examples of these open baskets are decorating the walls next to other examples of fine art.

In other cases, shapes and techniques are incorporated into objects far different from their origins. The traditional Sotho hat has become such a popular tourist item that one enterprising basketmaker has taken the idea and incorporated it into the lid for a basket. Basketry techniques are also used for completely different non-basket items such as the gourd and woven palm tortoises made in eastern Zimbabwe. Mbukushu twilled sitting mats (*masharo*) are readily converted into both ceiling and wall panels in safari lodges throughout the Okavango region.

In some areas of southern Africa, certain basketry containers have been replaced almost completely by "modern" alternatives. For example, tightly coiled baskets, once commonly used by Yei and Zulu to store home-brewed beer, have been largely replaced with plastic containers. The beer basket shape is however highly appreciated by interior decorators and the development of elaborate designs, extended colour range, better quality and tight construction has increased the value of these baskets to discerning collectors (see Plates 3, 4, 5) .

Impact on Designs

When baskets were made for use in the rural home, designs were often absent

or limited, as can be seen by examining a late 19th century Zulu basket (Plate 3). This lack of sophisticated design remains the norm in areas where baskets have not yet been subjected to heavy commercial marketing. Two examples are Shangaan-type baskets from Vilanculos, Mozambique (circa 1989) and Kwangali baskets from Kavango District, Namibia (circa 1992).

In contrast, in countries or areas where commercial marketing has taken place, designs have become increasingly elaborate and more colourful, transforming baskets from utilitarian pieces into works of art. One Yei basketmaker from Gomare, Botswana explains that "a long time ago there used to be no designs on our baskets, but these days our culture has developed and our designs are being used all over the country" (Terry, in prep.).

Some interesting examples of this elaborate expansion in design can be illustrated by comparing a mid-1970s Yei basket from Botswana (Plate 4) with a mid-1980s basket (Plate 5). South African Pedi and Zulu basket designs have also changed considerably during the same decades. Tonga baskets from both Zimbabwe and Zambia are showing the same type of elaborate changes in designs as commercial marketing has expanded in these countries during the last decade. For example, it was noted by the curator of the National Gallery in Harare that the Zimbabwe Tonga baskets were very rough and without much pattern in the early 1980s. During the mid-1980s, the Tonga basketmakers adopted designs from the Shona-speaking Nambya people west of Hwange (Wankie) and concentrated on improving the starts and finishes of the baskets (Jones 1987:37) (Plate 6). In Lesotho, in the past, baskets were either made without any design or had a subtle decorative component created by using an overstitch pattern or incorporating horse-hair. Observing that tourists bought baskets with a more extensive decorative component, yet with limited materials for making designs or dyes, the Sotho basketmakers now create designs by using alternative materials. Examples of these materials include the strands of green plastic bags used to pack oranges or cabbages, plastic industrial strapping and dried *Watsonia* leaves. The practice of dyeing the grass with chemical dyes to create designs in the hats and baskets has been encouraged recently as an alternative to the plastic.

Plate 1 Traditional Ndebele grinding mat purchased at a marketplace in Bulawayo, Zimbabwe, collected 1987, now used as a table mat. Private collection. Photograph by M.E. Terry.

Plate 2 Large laundry baskets made from *Hyphaene* palm on sale at the craft market stall frequented by tour operators and tourists at Matobo (Matopos) National Park, Zimbabwe, 1989. Photograph by M.E. Terry.

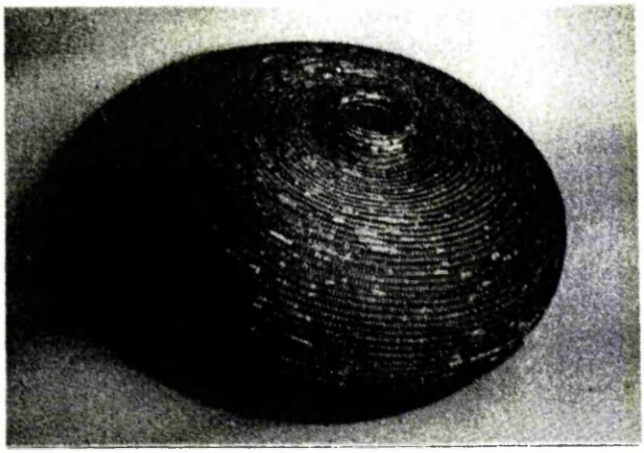

Plate 3 Plain Zulu beer basket of *Hyphaene* palm from the E. Remenyi collection (1893), Field Museum of Natural History, Chicago. Object number 28813. D: 41 cm, C: 109 cm, H: 27 cm. Photograph by M.E. Terry.

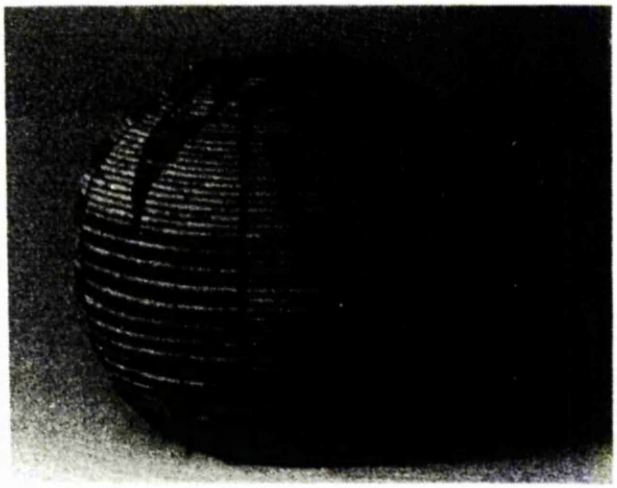

Plate 4 Mid-1970s Yei basket decorated with *Hyphaene* palm leaf fibre dyed with pounded *Euclea divinorum* root bark. National Museum, Monuments and Art Gallery, Gaborone, Botswana. Object number 14.A.4:10. D:18 cm, H: 43 cm. Photograph by M. Auckland.

Plate 5 Mid-1980s Yei basket decorated with *Hyphaene* palm leaf fibre dyed with pounded *Euclea divinorum* root bark. Repetitive triangle design called "flight of the swallow". National Museum, Monuments and Art Gallery, Gaborone, Botswana. No object number. D (bottom): 129x40 cm, H: 41 cm. Photograph by M. Auckland.

Plate 6 Tonga women improving their design skills at a basketry upgrading workshop, Kariangwe, Zimbabwe, October 1989. Photograph by M.E. Terry.

Plate 7 Yei basket with design called "the tail of the swallow" by some basketmakers and "yoke of the oxen" by others. National Museum, Monuments and Art Gallery, Gaborone, Botswana. Object number 14.A.2:48. D: 55 cm, H: 23 cm. Collected May 1978. Photograph by M. Auckland.

Plate 8 Yei basket with design described as "knees of the tortoise" or as *tundimbe*, the Mbukushu name for a traditional clay beer pot. National Museum, Monuments and Art Gallery, Gaborone, Botswana. Object number 14.A.1:206/79. D: 34 cm, H: 13 cm. Collected June 1979 by Botswanacraft Marketing Company. Photograph by M. Auckland.

Plate 9 A basketmaker cutting *Hyphaene* palm leaves non-selectively with a hoe. The fanned-out leaves in the foreground are not suitable for basketry and will be either used in building construction or left to rot. East of the Etsha villages, Ngamiland District, Botswana, 1987. Photograph by M.E. Terry.

The Expansion of Technique and Design Names

Regarding the names of techniques and designs, many craft marketing brochures and exhibition catalogues contain elaborate and interesting explanations of the so-called traditional design symbols. Wonderful as these may sound, some of them appear to have evolved from discussions between marketing officers and basket-makers during the 1970s rather than being purely based on the ethnographic customs of specific basketmakers and their cultures.

For example, subtle decorative effect through the use of an overstitch on basketry has a long history, but little has been recorded on any names given to the designs created from this weaving process. When examining various museums' collections with baskets from the mid-19th to the early 20th century, no records of names were found.

In Zimbabwe, the "herringbone" and "chevron" patterns on baskets created by the twilled weave are now known by names such as *chikoma* ("hills"), *mbizi* ("zebra") and *tsoro* ("game of draughts"). These designs are similar to the patterns built into the stone walls of the temple of Great Zimbabwe and the ruins of Khami and Dhlo Dhlo (Wylie 1983) and they were also often replicated on clay pots. However it is difficult to find evidence as to the origin of the currently used names and, as typical with all basketry products, patterns often evolve from the nature of the weave itself. Clearly a name such as the twilled basket design *tarakita*, referring to tyre marks of a tractor (Wylie 1983), does not have a long history. In the case of bangles plaited by Swazi and Zulu speaking women, some technique names do have a long history, such as *umhlahndla wenyoka* ("snake skeleton") and *indundu* (no translation). Others refer to introduced animals and modern materials, such as *umchamo wekewu* ("Muscovy duck's corkscrew penis"), *umchamo wengulube* ("pig's corkscrew penis"), and *isixembe seskoshi* ("broad scotchtape").

Of all the designs currently made by the Tonga in Zimbabwe, only three are considered to be "traditional". All three have names, but none of the names are really translatable. One is simply called *chitonga* or "of the Tonga". The two others are said to have been taken from patterns found on Tonga beadwork, but neither *inola* nor *zisakulo*

have an equivalent in English. The design, *cipile* ("puff adder snake") is not considered to be traditional by the weavers and another design *chinambya* acknowledges that it has been taken from the Nambya people (Tonga basketmakers, pers. comm. 1989).

Ebert (1977:71) in a 1976 study on the Basarwa (Bushman) basketmakers of the Nata River area in north-central Botswana found that the women showed little interest in pattern names or their significance. Of the 63 women interviewed by Ebert (1977), 14% did not know any designs and always made plain baskets, while 59% knew from one to four designs and 22% knew more than four designs. Although Ebert identified at least 15 distinct patterns and many variations of these patterns, when she made an attempt to elicit names for the designs only three were provided. None of the designs appeared to indicate a long history or a strong link with the past. For example, one zigzag pattern was called *bicicile* which was supposed to resemble the track left in the sand by bicycle tyres.

The same conclusion was drawn from two studies undertaken in Ngamiland District of Botswana (Terry 1984 and 1986). Of 150 basketmakers interviewed in the Etsha area in 1983 and 60 basketmakers surveyed in Gomare/Tubu in 1985, 85% knew how to produce at least three different designs. However, only a very few could provide names for the designs that they were incorporating into their baskets. In cases when names were given, the women in the same village often disagreed on the name for a specific design. For example, a common design which is known as "tail of the swallow" by some, is called "yoke of the oxen" by others (Plate 7). Another design often referred to as "knees of the tortoise" is also described as a *tundimbe* which is the Mbukushu name for the clay pot traditionally used for brewing beer. The shape of the pot is portrayed in the basket design (Plate 8).

Although the basketmakers may not know the name of particular designs, some do claim that they have been around for a while. During the Gomare study, 18% of the predominantly Yei basketmakers said that the patterns have existed "for a long time", while 3% indicated they learned the designs from their mothers or grandmothers (Terry 1986:53). In Etsha, where mostly Mbukushu producers are found, a large

proportion (70%) had no idea where the designs had originated. However, 8% thought the designs had come "from their ancestors", while 11% expressed the opinion that the basket designs had been taken from the designs on Mbukushu glass beaded skirts or aprons. While it was not surprising that the Yei basketmakers (17%) would say the baskets' designs were taken from Yei beadwork, it was interesting to note that 3% of the Yei producers said their designs came from Mbukushu beadwork and 2% said from Basarwa (Bushman) beadwork. Only a very few Etsha basketmakers claim that they make up their own designs as compared to 30% of Gomare basketmakers, possibly indicating the importance to the Yei of individual expression in design as compared to the Mbukushu.

While designs may not have been named in the past as formally as has been promoted in parts of Botswana (e.g. Anon. ?1976, Yoffe 1978), there is nothing wrong with the evolving process that has apparently occurred over the past two decades. Cultural traditions are not static. As Bernstein et al (1992:8) state, " 'tradition' is not a static inheritance but a repertoire of beliefs and practices that is constructed, reconstructed, modified (and sometimes even 'invented') with the needs of changing circumstances." Basketry, like other art forms, is a dynamic craft altered by cultural change. Moving into the last decade of the twentieth century, basketry patterns with names like "flight of the swallow", "back of the python", "running ostrich", "hyena's mouthful" and the "Milky Way" evoke the magic and mystery of Africa. Such beautiful names play an important role in helping to sell baskets, but they need to be recognised as largely recent innovations rather than traditional or historical terms for designs and patterns. It can also be said that these names represent southern African basketry culture as it stands today.

Impact on the Basketry Natural Resources

Basketry skills and the development of a strong basketry tradition are not spread uniformly over southern Africa. Fine quality basketry characterises particular regions and individual basketmakers, leading to renown for Yei, Mbukushu, Tonga, Pedi and Zulu basketmakers. Two major environmental features are determinants of this. First-

ly, the sandy soils of the Mozambique coastal plain and the Kalahari region are largely lacking in clay to make earthenware containers. Secondly these sandy sites are often characterised by the availability of fibrous plant material (leaves, roots, bark, stems) suitable for basketry (see Fig. 2). Therefore, skills have developed to use plant fibre or wood as materials for making household containers. In southern Africa at least 30 indigenous plant species are used for weaving fibre and 22 species for traditional dyes.

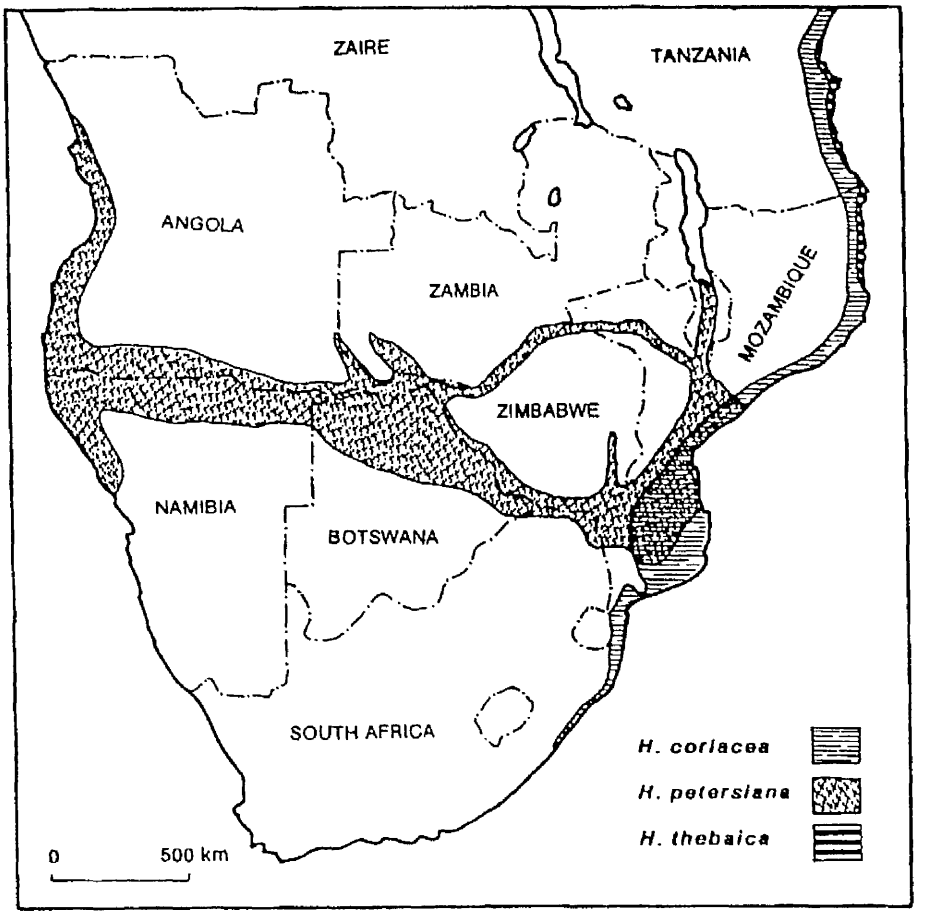

Fig. 2 Distribution of *Hyphaene coriacea* (formerly *H. natalensis, H. crinita), Hyphaene petersiana* (formerly *H. ventricosa, H. benguelensis)* and *Hyphaene thebaica* palm used throughout southern Africa in basketmaking. *H. coriacea* occurs on leached high water table sands while *H. petersiana* is usually found on base saturated clays or clayey sands. *Hyphaene thebaica,* which extends northwards through Kenya and into the Sudan, occurs at its southern distribution limit in Mozambique on calcareous dunes over fossil coral as part of dune thicket. Along the arid west coast, *H. petersiana* only occurs down "linear oases" formed by old river valleys. The main area of overlap in distribution of *H. coriacea* and *H. petersiana* is in central Mozambique.

Seven plant species are commonly used for binding wooden rims and ten species for the wooden rims of baskets (e.g. twilled and twined winnowing baskets).

With the development of commercial basket production, favoured raw materials for construction and dyeing come under heavier utilisation. In northwestern Botswana for example, the difficulties experienced by basketmakers in obtaining palm leaves and dye materials were noted by Botswanacraft Marketing Company and land-use planners by 1980, ten years after the start-up of commercial marketing (Gelmroth & Bendsen 1981). In 1983, 97% of Etsha basketmakers said that there was a shortage of the main basketry material, *mokola* palm leaves (*Hyphaene petersiana*). For the main dye materials, 77% of the producers said there was a shortage of *mothakola* (*Euclea divinorum*), while 79% complained about the availability of *motsentsila (Berchemia discolor)* (Terry 1984:58). In 1985, just over half of Gomare area basketmakers complained about shortages of these same three materials (Terry 1986:24).

Supplies of palm leaf fibre for basketry are affected by multiple use of palms for food (e.g. fruits and edible meristems or "palm hearts"), sap tapping for palm wine and use of leaf material for construction. In the opportunistic scramble for basketry materials, leaves are hacked at with axes or hoes (Plate 9) instead of being selected individually and cut with a knife. In some areas, browsing by cattle contributes to a decline in leaf availability to basketmakers. Two tree species, *Euclea divinorum* and *Berchemia discolor*, are favoured by makers as dye materials because their bark or root bark creates a dye that is strong in colour and colour-fast. Also the commercial market has shown appreciation for the dark brown and red-brown colours created by these two dye materials. Under commercial demand in an open-access situation, ring-barking and uprooting is prevalent (Cunningham & Milton 1982, 1987; Cunningham 1988).

Worsening conditions are experienced by basketmakers for all three species in Ngamiland, Botswana. Dye materials are now very scarce, threatening a valuable source of income, plus the availability of an important food source during drought periods (Cunningham 1992; Marsh & Seely 1992). In some places where it has become extremely difficult to find the favoured materials, the visual impact has been startling. Baskets have

appeared which have been made with dye from carbon paper or ink pens, colourful strips from plastic bags and even the tape from cassettes used to create designs.

A similar situation has occurred in the western part of Zimbabwe. In the village of Kariangwe in 1986 a small club for weavers was started with about 20 members. In 1987, during a basket quality improvement course, basketmakers felt that there was an unlimited supply of *Hyphaene* palm in the vicinity of their villages (Tonga basketmakers, pers. comm. 1987). Just two years later with over 500 members in three basket clubs, acute decimation of palm plants at the same harvesting sites was a dramatic visual testimony to the problems inherent in common property resource utilisation. Where basketmakers could once collect palm leaves close to their homes, they are now walking 35 to 40 km (Anon. 1989:13).

In parts of Natal Province (including KwaZulu) of South Africa, local depletion of dyes produced from the roots of *Euclea divinorum* has occurred in some sites (Cunningham 1987). There is also a shortage of mat-rush (*Juncus kraussii*) favoured for weaving beer strainers (*ivovo*) and making traditional sleeping mats (*amacansi*). In this case, most *Juncus kraussii* grows in coastal salt-marshes within conservation areas of Natal/KwaZulu, which are the focus of regional trade of harvesting, sale and resale involving thousands of rural and urban women. In an effort to resolve this situation, detailed studies have been completed on experimental cultivation and the economics of *Juncus kraussii*, *Cyperus natalensis* and *Cyperus latifolius* production (Heinsohn 1991). The studies have concluded that *Juncus kraussii* production is certainly a commercial proposition appropriate to small-scale farmers in the region.

Learning from experiences: natural resources and basketry development

The mistakes of the three areas mentioned above have not yet been repeated in other areas where commercial marketing is just starting. However, places like the Chobe Enclave in Botswana and the central Oshana area of northern Namibia must develop their craftwork industry carefully to ensure sustainability and to prevent further reduction of limited employment options (Terry 1988; Marsh & Seely 1992).

While new programmes for handicraft development and marketing in southern Africa can learn from the mistakes of existing programmes, they can also adapt to their own needs some valuable resource management ideas that have been developed to rectify the problems. For example, in Ngamiland District, palm cultivation trials have been underway since 1984, representing the first large-scale cultivation of palms indigenous to the southern African region. Implementation of palm cultivation has placed Botswanacraft Marketing Company and the Botswana Ministries of Agriculture and Commerce and Industry at the forefront of constructive resource management effort and is an example which other commercial craftworker organisations and government ministries in southern Africa could follow (Cunningham 1992:7).

From the cultivation trials it has been learned that growth rates are far faster than originally anticipated based on a small study in Zambia by Fanshawe (1967). Some palms in a trial plot at Etsha 8 in Botswana have produced leaves that could be harvested after four years rather than the expected seven to ten years. Germination has also been very successful with 60.1% in the Etsha 8 trial despite an average rainfall of only 280 mm during the drought years of the mid-1980s (Cunningham 1992:120). In 1989, basketmakers in the Etsha area began to complain that many of the palm leaves from the Etsha 8 plot were not good for weaving. A study was undertaken on this problem and Cunningham (1992) has concluded that palm leaf quality for basketmaking is far more complex than originally expected. Leaf quality is not only an issue of leaf age (unopened, supple leaves) and length (50 - 60 cm preferred), but also a product of harvesting regime, environmental and probably genetic factors. Recommendations have been made on thinning and leaf harvesting trials and the protection of favourite clones for seed production. All the lessons learned on palm cultivation in Botswana are being passed on to relevant colleagues in Namibia, South Africa and Zimbabwe to facilitate regional awareness of these issues.

Regarding the dye material depletion problem in northwestern Botswana, the use of alternative materials has been encouraged to take some of the pressure off the two favourite species. Over the past nine years there has been a marked increase in use of other locally available dyes including the leaves of *mohetsola (Indigofera tinctivo-*

rum) which produce a soft mauve colour and the leaves and stalks of fungus infected *Sorghum* and sweet reed (wild sugar cane) which change the natural cream-coloured palm leaves to pink. In early 1983, no baskets in Etsha and less than 10% of Gomare-made baskets were dyed with *Indigofera.* The presence of pink dye from *Sorghum* and sweet reed was almost non-existent. By 1985, about 10% of Etsha baskets and half of Gomare/Tubu baskets had *Indigofera* dyed designs (Terry 1986:47). By 1988 it was noted that about a quarter of Etsha baskets and half of the baskets from Gomare were made with pink-dyed palm. The advantage of using these plant materials as compared to tree species is obvious. *Sorghum* leaves and stalks are crop surplus which would not be eaten anyway because of the fungus. *Indigofera* leaves can be harvested in large quantitites due to high biomass productivity for this species and the low impact of leaf use compared to harvesting *Euclea* or *Berchemia* roots or bark.

Because it was thought that the pink and purple colours were not "traditional" it took the commercial market a while to accept them. After some educational awareness which introduced the fact that these colours were used occasionally before 1970 and that they were not "artificial", the commercial market has responded favourably and appears to be happy with the extended range and endless combinations of colours now available on Botswana baskets.

While the re-introduction of the mauve and pink colours has provided some alternatives, they cannot be a replacement for the dark brown and red-brown colours produced from the *Euclea* and *Berchemia* bark. To solve this problem it has been suggested that chemical dyes which could produce the same brown tones should be utilised (Cunningham and Milton 1982; Cunningham 1988, 1992). While attempts to use colour-fast chemical dyes were undertaken in 1989 and proved unsuccessful, this should not inhibit further experimentation (Steenhof, pers. comm. 1989). It should also be noted that the use of chemical dyes would not preclude the use of traditional brown dyes, but discerning collectors requiring only baskets with traditional dyes should be prepared to pay a higher price to master basketmakers using the natural dyes. In this way, basketmakers will be compensated for the extra time and effort spent obtaining the dye material (Cunningham and Milton 1982; Cunningham 1992:26).

Other ideas that can be taken from the Botswana basketry development programme are associated with making the best use of the natural resources. Throughout the 1980s, over 300 producers received training from master basketmakers to improve their technique and design skills, resulting in the rejection level of bowl-shaped baskets by the commercial market decreasing from 30% to 11%, while rejection of closed baskets went from 60% to 16% (Terry 1990a). This marked improvement in quality as judged by the commercial market helps to avoid wastage of raw materials. A tiered pricing system implemented by commercial buyers also encourages quality basket production. Through this process master basketmakers receive more money for high quality baskets, providing an incentive to other basketmakers to aim for high quality production. Finally, a programme of annual exhibitions and competitions, primarily organised by Botswanacraft and the National Museum, Monuments and Art Gallery, has encouraged and promoted excellence in basketmaking.

Conclusion

Basketmakers all over the world are constantly experimenting with new materials and dyes. They also respond to commercial demands for particular basket types and southern African basketmakers are no exception to this. Particularly since the 1970s, commercial marketing of basketry has altered basket design, dye use, basket quality and rate of production. This is particularly noticeable amongst rural basketmakers for whom basketmaking provides a small but crucial source of revenue in often very remote areas. A commercial market for baskets can provide an incentive to basketmakers to continue to use and teach traditional skills that would otherwise have disappeared. It also has a negative local impact on some favoured fibre and dye resources in Botswana, Zimbabwe and South Africa. Responses to these changes have included workshops to maintain or improve basket quality and work with basketmakers to identify key resource management problems and address them through practical action. These case studies may be useful in other parts of the world where similar problems need to be avoided or resolved.

Notes

1. Address: Design and Development Services, PO Box 413, Gaborone, Botswana. Portions of this paper have been developed from research under taken by Ms. Terry as a doctoral candidate. The University of London Central Research Fund and the School of Oriental and African Studies Fieldwork Award programme are gratefully acknowledged for their partial funding of the research. Appreciation is also extended to the Office of the President, Republic of Botwswana for permission to undertake the Botswana portion of fieldwork and to the various museums who allowed access to their collections, especially Bulawayo Art Gallery, Zimbabwe; Museum of Mankind, London; Field Museum of Natural History, Chicago; National Museum, Monuments and Art Gallery, Gaborone; Natural History Museum of the Smithsonian Institution, Washington DC; the Seattle Art Museum, Washington State; and South African Museum, Cape Town.

2. Address: c/o WWF/UNESCO/Kew "People and Plants Programme", 19 Aranda Street, Leederville 6007, W. Australia.

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Elizabeth Terry

BOTSWANA HANDICRAFTS

WITHIN SOUTHERN AFRICA ON THE TROPIC OF CAPRICORN LIES A LANDLOCKED country about size of France called the Republic of Botswana. The Kalahari Desert and the Okavango Delta, dominating most of Botswana's landscape, greatly influence the country's economy through the mining of diamonds and copper, the raising of cattle, and an abundance of wildlife enhancing a growing tourist industry. Although Botswana is potentially a wealthy country, the majority of its one million population remains rural and poor, without many opportunities for employment.

From Botswana's harsh environment and natural resources a vast tradition of craft products has grown. These procucts continue to be made and used, making Botswana one of the largest remaining sources of traditional African crafts. Today, the increased production and sale of traditional crafts for a commercial market provides the rural people of Botswana with a much needed source of cash income. In addition, since the early 1970's, the development and marketing of contemporary handicraft products has been encouraged, providing income for producers in urban areas.

Although the handicraft industry receives some assistance and advice through the Ministry of Commerce and Industry, there is no single government

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body responsible for aiding the handicraft producers. The parastatal organization, Botswanacraft Marketing Company provides development and marketing services to most of the rural producers. Contemporary craft workshops market their products primarily through Botswanacraft, but also through their own efforts.

Government and Botswanacraft, along with a variety of private organizations, collaborate to provide training and craft development advice to individual producers and producer groups. Training primarily consists of upgrading of traditional products, expansion of design and colours, and introduction of new contemporary products. Exhibitions and contests are held throughout the year to encourage creativity and excellence.

Rural producers typically already possess the necessary skills to produce traditional crafts. They are provided with advice on how to make their products suitable for the commercial market and given marketing assistance. Urban producers are often taught a craft skill from scratch in order to provide them with a skill to earn an income. Other help is given in regards to the raw materials needed for craft production. In urban areas raw materials are often ordered in bulk to keep costs down. In rural areas producers are given advice to conserve certain raw materials and help in propogating others.

THE TRADITIONAL CRAFT PRODUCTS

Basketry

The most famous of all the craft products of Botswana is the basket. As an integral part of the Botswana agricultural culture, baskets have been made and used traditionally for thousands of years. Closed baskets with lids are used for storing grain, seeds, and sometimes sorghum beer. Large, open, bowl-shaped baskets are used by women for carrying items on their head and for winnowing grain after it has been thresheld. Smaller, plate-shaped baskets are used for winnowing grain after it has been pounded.

The main producers of baskets are the women of the Bayei and Hambukushu tribes in northwestern Botswana. Although baskets are still very much a common sight in rural Botswana, more and more are being produced today for the commercial market. Expansion and diversity of weaving techniques, designs, and the use of more colours are encouraged through upgrading courses, annual competitions, and exhibitions. Today the baskets of Botswana are equal to the finest art forms found in the world.

Botswana baskets are produced by using the coil technique of weaving. The main raw materials are: *mokola* palm (Hyhaene petersiana) fibre, the bark and roots of the *motlhakola* (Euclea divinorum) and *motsentsila* (Berchemia discolor) trees for dyeing, and grass (Eragrotis pallens) or vine for the interior of the coil.

Originally most of Botswana baskets were without designs, being all cream-coloured, the natural colour of the palm fibre. Gradually more and more designs have been woven for identification purposes and beautification. A great tradition of named designs has slowly grown up, having been taken from examples of beadwork and observations of nature. Some of the most famous include: Flight of the Swallow, Swallow's Tail, Back of the Python, Tears of the Giraffe, Running Ostrich, Roof of the Rondavel, Forehead of the Zebra, and Knees of the Tortoise.

Bushmen products

The Bushmen, known as the Basarwa, still live in the harsh environment of the Kalahari Desert and western Ngamiland. Their craft skills, passed down through generations, are an integral part of their traditional practices of hunting and gathering, dancing for healing and entertainment, and personal adornment of the body. While the Bushmen continue to use their craft

products in daily life, increased production and sale of these items also provides them with a much needed source of cash income.

Bushmen products include such items as hunting sets and bow and arrow sets which come complete with spear, bow, bone or metal tipped arrows, fire stick, digging stick, and a quiver. The Bushmen make lovebows, which are miniature versions of the hunting sets, used by men to propose love to women. The men shoot the arrows toward the women of their desire. If the women pick up the arrow, they are indicating that they too want to start relationships. Leather skirts and aprons are the customary dress, worn today by only elderly women and their children. Beaded bags are for carrying food when gathering items like roots and nuts. Tortoise shell powder puffs contain aromatic herbs and are decorated with glass or ostrich eggshell beads. The shells of hatched ostrich eggs are used for making small beads that are then fabricated into necklaces, belts, bracelets, and headbands.

Herero dolls

Under the influence of German missionaries the Herero women switched from wearing heavy leather clothing to Victorian style patchwork dresses and headscarves. Today, the Herero women produce likenesses of themselves in their handsewn Herero dolls which represent four styles of dress: the ancient ancestral costume, pre-puberty, puberty and adult outfits.

Hambukushu crafts

The Hambukushu of Etsha came to Botswana in 1970 as refugees from Angola, arriving with a wide variety of craftwork skills. The men, famed for their blacksmith skills and woodcarving abilities, fashion decorative but functional tools and musical instruments: axes, hoes, adzes, drums and thumb pianos. The women weave baskets, mats, and *dipaupau* bags from natural fibres found in the surrounding environment of the Okavango Delta. They also produce a traditional wig called *dishukeka* and beaded aprons and skirts.

Game skin products

Botswana is blessed with an abundance of wildlife. The commercial utilization of this natural resource is encouraged but carefully monitored by the Department of Wildlife. Rural producers fashion mats and bags from the skins of duikers, steenboks, spring boks, and elands. *Karosses* (blankets) are made from the pelts of the jackel and bat-eared fox. Skinmats are the primary product from Shoshong Development Trust.

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Under the influence of German missionaries the Herero women switched from wearing heavy leather clothing to Victorian style patchwork dresses and headscarves. Today, the Herero women produce likenesses of themselves in their handsewn Herero dolls which represent four styles of dress: the ancient ancestral costume, pre-puberty, puberty and adult outfits.

Hambukushu crafts

The Hambukushu of Etsha came to Botswana in 1970 as refugees from Angola, arriving with a wide variety of craftwork skills. The men, famed for their blacksmith skills and woodcarving abilities, fashion decorative but functional tools and musical instruments: axes, hoes, adzes, drums and thumb pianos. The women weave baskets, mats, and *dipaupau* bags from natural fibres found in the surrounding environment of the Okavango Delta. They also produce a traditional wig called *dishukeka* and beaded aprons and skirts.

Game skin products

Botswana is blessed with an abundance of wildlife. The commercial utilization of this natural resource is encouraged but carefully monitored by the Department of Wildlife. Rural producers fashion mats and bags from the skins of duikers, steenboks, spring boks, and elands. *Karosses* (blankets) are made from the pelts of the jackel and bat-earred fox. Skinmats are the primary product from Shoshong Development Trust.

Pottery

Only a few producers are still found to be making traditional clay pots for storing water or beer. The clay is dug locally and fired using traditional methods. These pots are only sold locally because of their fragility.

THE CONTEMPORARY CRAFT PRODUCTS

Tiro ya Dialta produces woven tapestries and rugs from wool. Their tapestries have gained an international reputation and depict Botswana village life, wildlife, and traditional geometric designs. Tiro fashions 100 % natural work stuffed Teddy Bears complete with their own personalities and passports from Botswana. A new branch of Tiro called Tiro Afrique makes knitwear such as jerseys.

Lentswe la Oodi Weavers also produce wool tapestries. In addition, Oodi weavers produce wowen wool beadspreads. tablecloths, table runners and mats in marvellous earthy colours.

Baikagi Weavers make wall hangings, bags, carpets, sisal mats, and screen prints. All the woven wool items are made of *karakul* wool from the sheep of south western Botswana.

Thamaga Pottery at Botswelelo Centre produces stoneware pottery such as dishware, ash trays, candle sticks, and candle holders fashioned as mud huts.

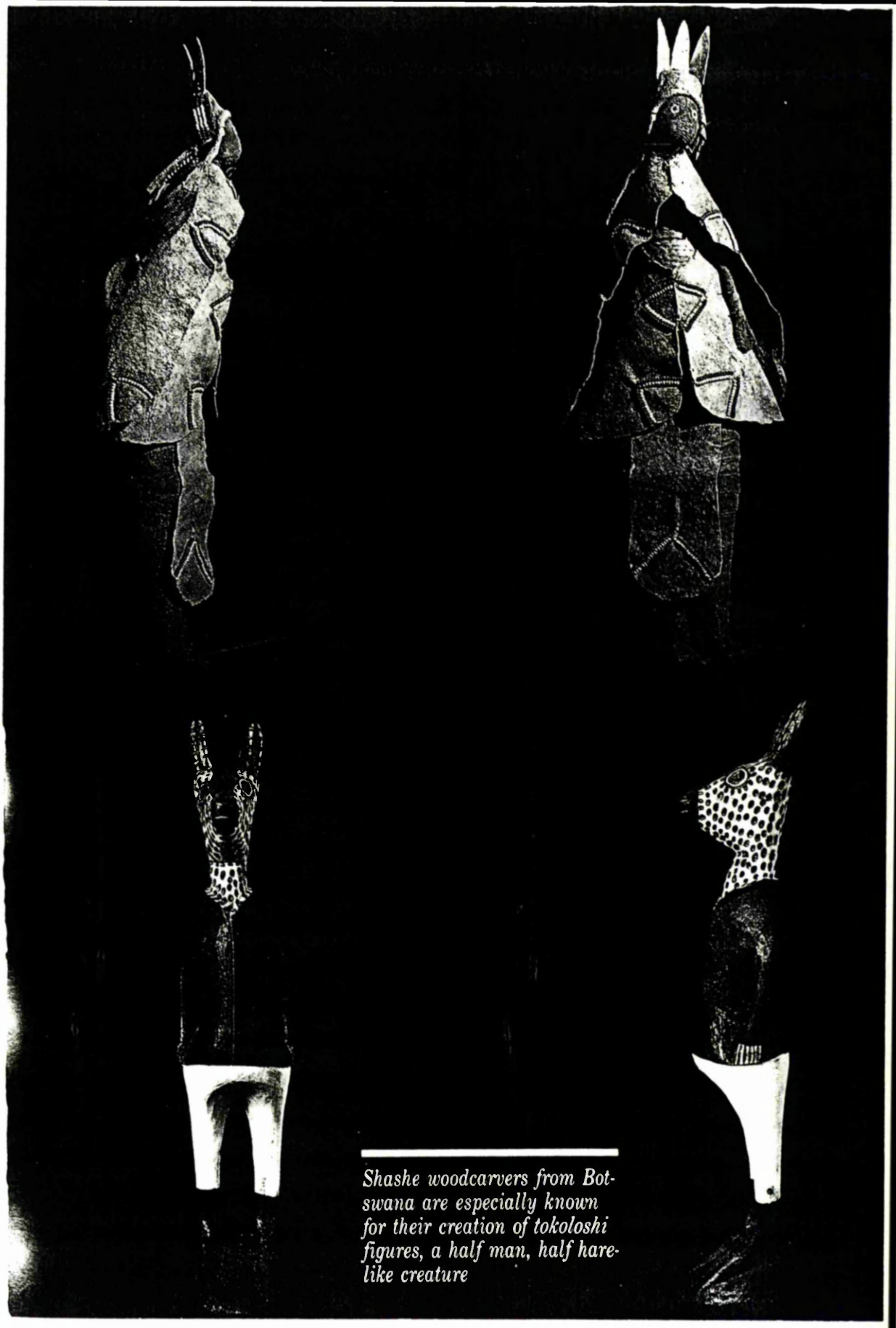
Carved wooden items (giraffes, guinea fowls, baboons, donkeys and oxen pulling sleighs and carts) and traditional pots made by villagers are also bought and retailed by the Centre.

Pelagano Pottery produces a variety of animal and human figurines, masks, small pots, and jewellery from clay. Designs are taken from local Botswana traditions and from other African countries.

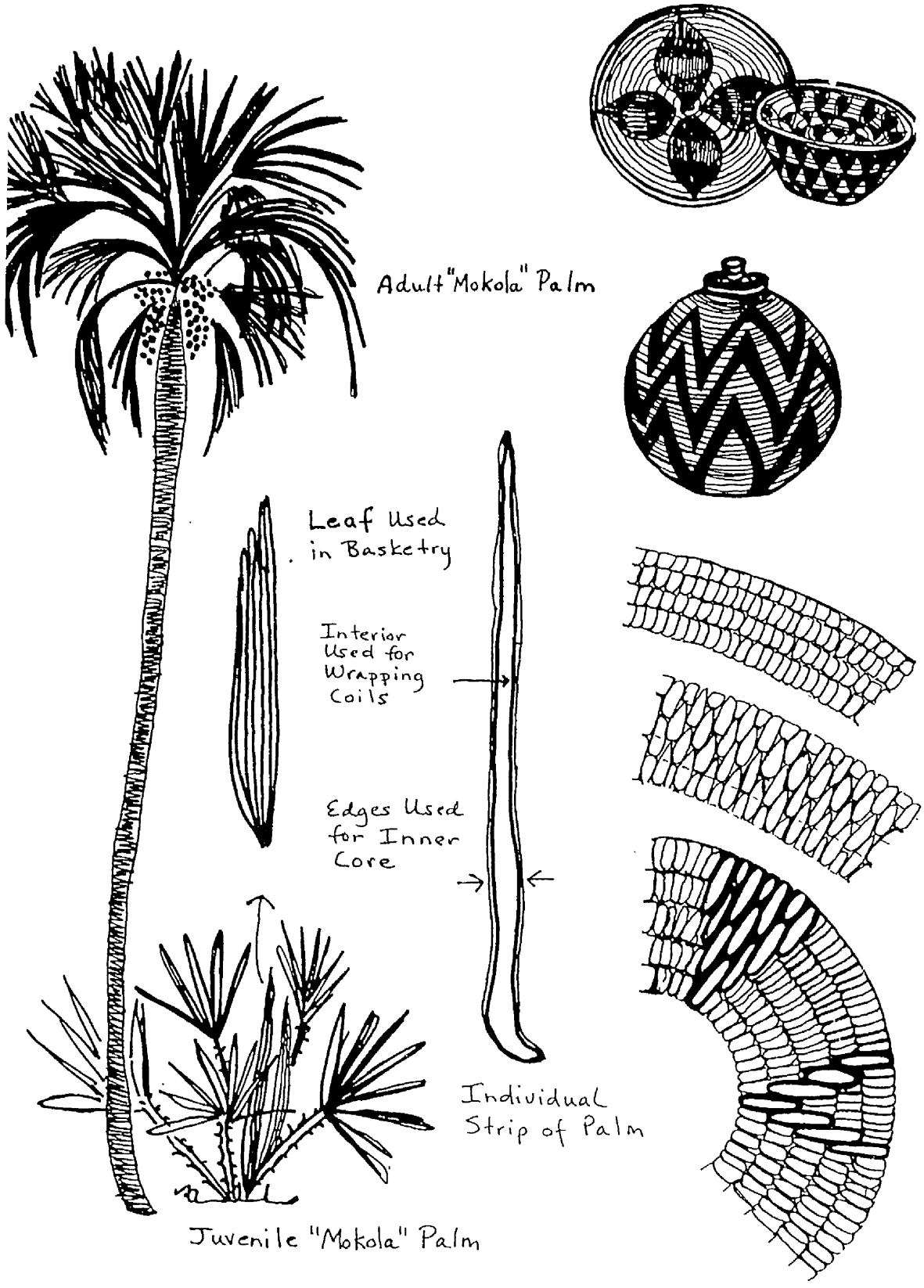
Moratwa Ceramics produces both utilitarian and decorative hand made ceramic items, including platis, bowls, coffee and beer mugs, candle holders, and egg cups. They are especially noted for their oil lamps, selection of plant pots in a variety of shapes, and large decorative slab pots

Mokolodi Craft is a group of six women and one man established in 1986, who produce a line of ceramic jewellery on a cottage industry basis The clay beads are individually hand rolled, then burnished with the back of a spoon to create a glossy surface which reflects the colours obtained when firing. The beads are fired in direct contact with wood and cowdung to a temperature of 900°C to ensure their strength. After cooling the beads

Handsown dolls made by Herero women, Botswana



Shashe woodcarvers from Botswana are especially known for their creation of tokoloshi figures, a half man, half hare-like creature


Adult "Mokola" Palm
Leaf Used in Basketry
Interior Used for Wrapping Coils
Edges Used for Inner Core
Individual Strip of Palm
Juvenile "Mokola" Palm

are threaded into necklaces and earrings of contemporary African styles. The styles are inspired by nature and the clay itself and each producer plays some part in the design of the necklaces.

Thusano Workers Cooperative Society makes jewellery and objects of art from sterling silver and Botswana gemstones. The products are produced by using malting and casting machines. Thirty-six different product categories are made with designs based on traditional styles taken from Botswana basketry, beadwork, Bushman rock paintings, and wild life.

Marothodi Design employs 30 women to produce a variety of clothing fashions, hand bags, table cloths, and calenders on cotton cloth and cotton/polyester cloth using silkscreen methods with both reactive and pigment dyes. They also make curtains for hotels and health centres in many locations in Botswana. Marothodi operates a retail shop in the capital of Gaborone and in the notheast in Francistown and wholesale to other shops in Botswana. They are not interested in exporting as the local market is sufficient to meet their level of production.

Wooden crafts

Several different projects, producer groups, and individual craft people are producing wood carvings and utilitarian products made from wood.

Scattered throughout the northeastern area of Botswana near Shashe are many individual producers working under the shade of trees or in makeshift shelters. Simple hand tools are used to carve out human and animal figures from soft and hard woods. Hand-turned or bicycle-run lathes are utilised to produce such items as candlesticks, ash trays, and sugar bowls from hard *mopane* wood. Shashe wood carvers are especially known for their creation of *tokoloshi* figures, a half-man, half-hare like creature that can be used by its owner for good or evil intentions, and for their wooden toys such as buses, cars, and airplanes.

Serowe Woodcarvers are a group of men of Basarwa (formerly known as Bushmen) descent who came together in 1980 to produce wooden crafts and to improve their production methods and working environment, and, most importantly, the prices that they received from their products. Today, a core group of 25 men carving figures, animals, chairs, bowls, spoons, and stools and 15 women making baskets, necklaces, and Herero dolls meet regularly. Items with design are inspired from the traditions of the San people.

In Kgatleng District, producers are assisted through the efforts of the In-

dustrial Field Officer. Wooden products include basins, spoons, and *kgotla* chairs (traditional chairs used by chiefs when addressing village *kgotla* meetings, now modernised to a certain extent for the commercial market).

THE MARKETING

Approximately 70 percent of the craft products available in Botswana are sold within Botswana. The other 30 percent is exported to the United States, European countries, Australia, New Zealand, and countries within southern Africa. Internally, marketing is done by individual producers, by producer groups wholesaling and retailing their own products, and by the effort of Botswanacraft. Exporting is accomplished by both the individual production groups and by Botswanacraft.

To obtain specific information on ordering the products mentioned in this report the following addresses may be contacted:

Botswanacraft Marketing Company (Pty) Ltd.
P.O.Box 486, Gaborone, Botswana,
fax: 313189, telefax 2626 BLM

Kung San Works
Private Bag 0031, Maun, Botswana

Gantsicraft
P.O.Box 196, Ghanzi, Ghanzi District, Botswana

Shoshong Development Trust
P.O.Box 228, Shoshong, Botswana

Tiro ya Dialta
P.O.Box 165, Lobatse, Botswana

Lentswe la Oodi Weavers
P.O.Box 252, Gaborone, Botswana

Baikagi Weavers
Private Bag 82, Lobatse, Botswana

Thamaga Pottery
Botswelelo Centre, P.O.Box 90, Thamaga, Botswana

Pelagano Pottery
Pelagano Village Industries, P.O.Box 464, Gabane, Botswana

Marothodi Designs
P.O.Box 836, Francistown, Botswana

Serowe Woodcarvers
P.O.Box 685, Serowe, Botswana

Mokolodi Craft
P.O.Box 1553, Gaborone, Botswana

Thusano Workers Cooperative Society (Ltd)
P.O.Box 736, Gaborone, Botswana

THE BOTSWANA HANDICRAFT INDUSTRY: MOVING FROM THE 20TH TO THE 21ST CENTURY

M Elizabeth Terry
Design and Development Services

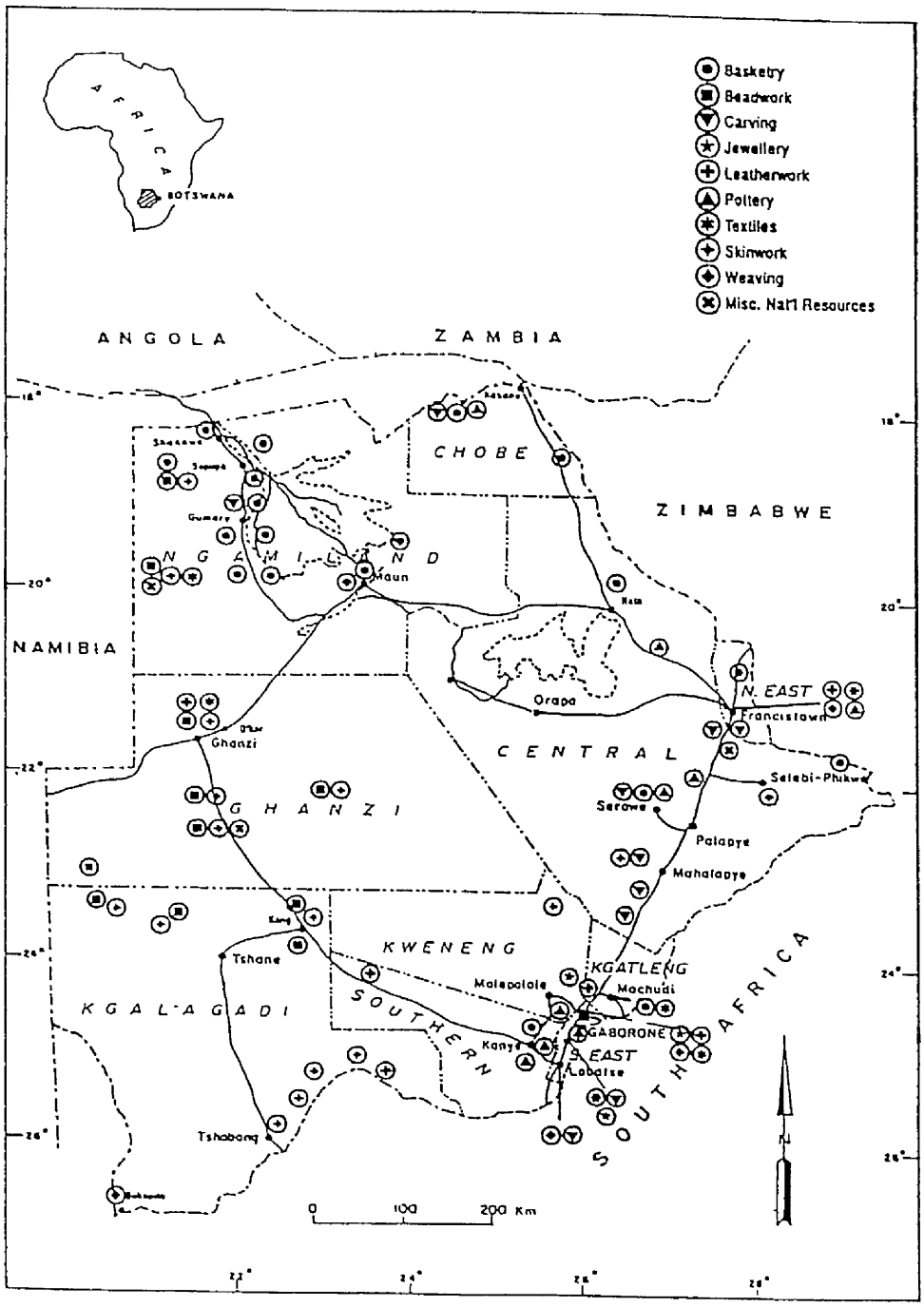
Introduction

Botswana has experienced one of the highest economic growth rates in the world during the past ten years, but the income distribution record has not been as good.[1] Although the mining sector, principally diamonds, has been the major engine of growth, it has provided relatively few direct benefits in terms of jobs and linkages to other sectors. The agriculture sector has shrunk during the same period and cattle ownership remains highly skewed. Approximately 76 percent of the total population is rural (CSO 1991:3), and FAO (1986:7) estimates that 55 percent of the rural population is in absolute poverty. If the current rate of population growth continues, Botswana's population will double within the next 20 years (CSO 1987:87). Although the past few years have seen employment growth exceed the annual additions to the labour market, there remains a serious backlog of unemployment and underemployment, especially among the youth and unskilled (MFDP 1991:48).

To combat poverty and avoid unemployment, most rural people pursue a livelihood from a range of means, switching around as circumstances dictate (Berry 1980; Madeley 1989; Bernstein *et al.* 1992). In rural Botswana, many people engage in a three-tiered strategy: raising livestock, dryland and/or wetland agriculture, and some form of non-agricultural income generating activity, (i.e., either trade, service, or small-scale production). Similar to the rural dwellers, poor urban households usually rely on a variety of methods to obtain income. Increasing urban and peri-urban populations means stiff competition for the income opportunities that are available. For poor households caught in the cycle of poverty, this usually means the lack of ability to compete amongst skilled labour.

This paper argues that the promotion of the traditional handicraft industry and marketing assistance can be one strategy to help alleviate poverty in the rural areas, not as an alternative to agriculture, but as an addition to it. In the urban and

1 The Rural Income Distribution Survey (RIDS) (CSO 1976) in 1973 notes a Gini coefficient of .52, while later rural economic studies suggests a worsening distribution of income. The 1985/86 HIES study indicated a Gini coefficient of .55 while the Bank of Botswana study in 1986 stated .72 (CSO 1988; Bank of Botswana 1987).



Source : Terry, in prep.

peri-urban areas, contemporary handicraft training and production development offer individuals the chance to earn a living without having to compete with the unskilled or semi-skilled majority. In all areas, craft production can provide an opportunity for individual and national expression of creativity and culture. In Botswana, the concept of handicrafts promotion as a viable development activity appears to have gone in and out of vogue at least twice in the past two decades. At present, national and district-level support for the Botswana handicraft industry is almost non-existent. Without a renewal of support in the form of skills training and marketing assistance the handicraft sector probably has little chance of survival into the next decade and no chance of growing to reach its fullest potential. If a comprehensive programme of training, management, and marketing promotion could be developed, the 21st century might see an exciting, vibrant industry unfold.

This paper will discuss these issues by first describing the relationship between agricultural production and small-scale industries, including handicrafts. After outlining the importance of the handicraft industry in general, this paper will describe the current state of the handicraft industry in Botswana. Following this will be some speculation on the status of this sector in the early days of the 21st century if it continues to receive only minimal support as compared to a more optimistic situation where support is institutionalised into government policy and both NGO and private sector programming.

Handicrafts in Relation to Agriculture

The interplay between agricultural and non-agricultural activities has long existed in rural areas. Subsistence households have been occupied not only in farm production, but also in a variety of other activities to meet non-food needs, such as making clothing, household goods, and farm implements.

Traditionally in Botswana, certain crafts have followed this pattern. Both men and women fashioned leather skins into clothing and shoes. Subsistence agriculturalists wove baskets for winnowing, carrying, and storage of grain. Blacksmiths produced hoes, axes, knives and other implements. Woodworkers carved tool handles, cooking and eating utensils, and rudimentary furniture. Much of this work was done off-season when people were not busy on the lands.

In more recent times, the World Bank (1990) and others (Harper 1984) have suggested that the core strategy to alleviate poverty must be to create employment and increase incomes. While agriculture is important, data obtained from a variety of sources indicate that rural workers depend significantly on non-farm employment (World Bank 1978:20). The promotion of small-scale, non-agricultural activities is thought to be the best way of increasing rural incomes and thus reducing the

rural-urban inequities (Fundanga 1985:87). Average earnings from non-agricultural occupations and average incomes of non-farm rural households are higher than those in agriculture (World Bank 1978:27). A significant proportion of farming households' cash income is derived from non-farm employment, including the production of handicrafts (Levitsky 1989).

Significance of the Handicraft Sector

While there is a paucity of literature on the economic aspects of the handicraft industry, the literature that does exist stresses the significance of this specialised sector. Kennedy (1988:24) believes that small craft enterprises are becoming increasingly central to the social and economic lives of the Third World. Allal and Chuta (1982:1) feel that the contribution of small craft production units to a country's socio-economic development objectives is far from being insignificant. They describe areas where handicrafts constitute important sources of both primary and secondary employment (Allal and Chuta 1982; Kennedy 1988). Out of a sample of 19 countries, 13 countries have at least one-fifth of their rural labour force participating in artisan and craft activities as their primary source of employment. In addition to providing primary employment, handicraft activities are suitable for smoothing out seasonal production/income cycles by providing work outside of the agricultural season (Arnold et al 1987:11). During drought years and for those whose lands are marginal for producing crops and keeping domestic livestock, handicraft production can provide a crucial source of income (Terry in prep.)

For women especially, home-based cottage industries and flexible handicraft production can provide an alternative or addition to the traditional work of farming and domestic labour (Harper 1984; Toroka 1990). Many micro-enterprises are owned and managed by women who depend on this source of income to support their whole household (Stearns 1988). While creating a valuable alternative source of income, these enterprises also encourage personal development (Harper 1984:14; Fundanga 1985:119).

The production of utilitarian craft products at a local level can meet the needs of the local community. Locally-geared production in many different villages serves the purpose of spreading and increasing employment opportunities equitably throughout a country (Browne 1978; Allal and Chuta 1982; Harper 1984; Stearns 1988).

Products that originate in rural communities based on local needs and preference are also attractive to the 'ethnic' product export market because of their differences and originality. Through the sale of craft objects outside of the local area, 'new' money is brought into the rural community in contrast to money that is simply

'circulated' amongst the villagers as with bread baking, beer brewing, or repair services (Carr 1988; Terry in prep.). Handicrafts are also known to represent a substantial proportion of the manufacturing exports of countries such as India, the Philippines, and Bolivia (Harper 1984:12), therefore bringing in valuable foreign exchange.

The handicraft industry helps to keep the culture of the past alive. By encouraging the production of crafts and placing a monetary value on them, producers themselves can realise the importance of what they are doing, benefit financially from their work, and thus carry on with production. Without this social and financial recognition, craft people who may no longer need a specific object in their everyday lives would stop producing. A commercial market for crafts can provide an incentive to producers to continue to use and teach traditional skills that would otherwise have disappeared (Terry and Cunningham, in press).

Reversing the situation, handicraft production is also important because crafts can act as a vehicle for creative and changing cultural expression. As cultures and traditions evolve, they tend to take with them aspects from the past, while absorbing new ideas and forms from the present. These expressions of unfolding culture can be incorporated into the production of handicraft objects. At the same time, new techniques and materials can create change in the forms and culture itself, helping to mould and shape the on-going cultural process.

Status of the Handicraft Industry in Botswana in the late 20th Century

In Botswana today the total number of craft workers is estimated to be 5 000, a number which represents about two percent of the labour force currently employed (Alexander 1991:42). Over three-quarters of craft producers are women and if compared to the general population where women comprise 52 percent, then craft production is predominantly a 'female occupation'. Approximately 84 percent of all producers create crafts based on traditional ideas and needs, while the remainder practice the production of contemporary crafts which have been introduced during the past two decades. Similar portions define producers who work informally and formally. The majority of producers (86 percent) can be considered as part of the informal sector, while 14 percent work within the formal sector as part of a registered business or co-operative. Informal producers may work long, hard hours each day or only part-time. Their craftwork is often fitted between other household or agricultural tasks, may be dropped completely during a busy agriculture season, and may become the sole occupation off-season. In contrast, formal sector producers usually work in craft production full-time and year-round. In Botswana at the end of 1992, approximately 50 formal production units were actively manufacturing craft

products and employing over 700 people (Terry, in prep.) Craft production can also be divided into separate categories of crafts as represented in Table 1.

TABLE 1 :

Estimated Number of Producers in Ten Product Categories (as of November 1992)

Product Type	Producer Numbers	% of Total	Total Females	% of Females
Basketry	2 408	48%	2 361	98%
Beadwork	850	17%	850	100%
Skinwork	715	15%	50	7%
Leatherwork	326	6%	177	54%
Carving	238	5%	5	2%
Weaving	176	4%	164	93%
Textiles	92	2%	86	93%
Pottery	72	1%	62	86%
Jewellry	51	1%	46	90%
Crafts from Misc. Natural Resources	33	1%	3	9%
TOTAL	4 961	100%	3 804	77%

Source: Terry, in prep.

By using the official definition of urban as 'a settlement of 5 000 or more people, with at least 75 percent of its labour force in non-agricultural occupations' (CSO 1991:3), few craft producers (only 7 percent as compared to 24 percent of the general population) live in urban areas. In almost all cases these urban producers work full-time in formal production units (Terry, in prep.). Table 2 estimates the number of producers in each district and the map indicates the geographical location by craft category.

TABLE 2 :

Geographical Location of Producers by District

District	Number of Producers	% of Total Producers	District Population as a % of National Population *
Ngamiland	2 877	58%	7%
Ghanzi	533	11%	2%
Kgalagadi	419	8%	2%
Central	245	5%	35%
North East	229	5%	8%
Kgatleng	219	4%	4%
Chobe	181	4%	1%
South East	122	2%	15%
Southern	59	1%	12%
Kweneng	57	1%	13%
No District Designation	20	1%	-
Total	4 961	100%	100%

Source: Terry, in prep.; *adapted from CSO 1991:7

When 341 individual producers were surveyed across the country in 1991 and early 1992 (Terry, in prep.), the average income per person from craft production was found to be P708 per annum. Because craft production in the informal sector is often done in addition to other household and agricultural activities, there are considerable variations in production levels and incomes for individual producers. The 1991/92 study noted a range from a few Pula per producer per annum up to P12 000. Of those producers interviewed, 20 percent stated that craft production was their only source of cash income, while 55 percent indicated that it was their most important source.

On the marketing side, 39 outlets for the sale of crafts were identified to be in operation in 1992 (Terry, in prep.). Of these outlets, 22 percent were attached to production units and a similar proportion was connected to a hotel or lodge. Seven outlets, or 19 percent, were retail shops not connected to any other type of operation. The outlets were located in three types of areas: urban (38 percent), rural (32 percent), and rural areas frequented by tourists (30 percent). In terms of customers, the holiday visitor made up 37 percent of the customers, while the expatriate resident represented 27 percent. A further 16 percent of the customers were considered to be business visitors and 13 percent were Batswana.

Disappointingly, less than half (42 percent) of the items sold at craft shops in Botswana are made in Botswana. The shops had an estimated sales turnover of P7.1 million. If non-craft items (e.g., safari clothing and books) are subtracted from this amount, then P5.2 million worth of crafts are sold annually in Botswana with P2.2 million of this turnover being crafts actually produced in Botswana.

Unfortunately
Trends for the Future: Into the 21st Century

Unfortunately very little research has been conducted on the economics of the handicraft sector in Botswana and no time studies have recorded producer numbers, production levels, and incomes since commercial marketing began in the late 1960's. The one exception to this is the basket industry where information has been gathered over the past two decades and empirical data are available to predict trends for the future (see Terry 1986; Terry 1988c; Terry in prep; Terry and Cunningham, in press). For the other areas of craft production only educated guesses can be made as to their future status.

All indications about basket production have shown a tremendous increase in production and numbers of women weaving, but a minimal increase in income over the past two decades. Commercial buying started in early 1970 in Ngamiland District. In that first year approximately P1 000 worth of baskets was bought from a handful of women. By 1992, over P200 000 per annum was being distributed to approximately 2,000 women in the same area (Terry, in prep.). The average annual income from weaving was estimated to be P140 in 1985 and P215 in 1991.[2] During both periods some individuals earned over P1 000 per annum from weaving (Terry 1986:55; Terry, in prep.) Production clearly took a small dive when Botswanacraft ended its purchasing operation in the District in 1989 and before other commercial and non-profit operations filled the gap.

As another example, in the mid-1970s basket purchasing in the Chobe Enclave by Botswanacraft averaged P800 annually. Between the late 1970s and the late 1980s the marketing opportunities for the weavers were limited because Botswanacraft had discontinued its programme in Chobe and only occasionally would the Rural Industrial Officers buy baskets for the annual agricultural show. Few producers appeared to sell their baskets directly to tourists or tourist-oriented craft shops. By 1988 only about half (approximately 60) of the people who knew how to weave were actually making baskets for their own use or a small commercial clientele (Terry 1988c). With the placement of a volunteer handicraft advisor in the Enclave in 1989,

2 Although these amounts may seem small, during 1985/86, per capita annual cash income for small rural villages was P300 and the average household income across rural Botswana was estimated to be P1 600 (CSO 1988:5), indicating that in some cases an individual basket-maker could make a substantial contribution to her family's welfare. In fact, over 20% of the weavers in Gomare said that basketry income was their only source of cash income and an overwhelming amount (86%) claimed that their most significant source of cash income came from basketry (Terry 1986:53).

production increased to include almost 170 weavers with at least 1 000 baskets purchased in 1990/91 and P7 780 distributed amongst the weavers (Terry, in prep.).

In contrast to Ngamiland and Chobe, in areas where collection and marketing of baskets has not been overtly encouraged or assisted over the past two decades, the number of weavers has apparently decreased and production in some villages has almost completely died out. Figures over time are not available, but in the Nata area only about 25 people are still weaving (Terry, in prep.) and in the area east of Bobonong approximately 50 weavers were selling to the Tuli Block lodges and expatriate volunteers in 1988 (Terry 1988a).

The basket industry is predicted to remain at least stable and possibly grow in the 21st century for a variety of reasons: the popularity of the product; the percentage of young weavers (i.e., 45 percent under 40 years old) and their interest in weaving; the lack of other alternative income opportunities in the basket-making areas, over seven years of skill upgrade training in the area, a reasonably sound marketing system, and ongoing activities to cultivate the main raw material, the *Hyphaene petersiana* palm, to ensure a sustainable supply. If any of the development and marketing activities which are practised in Ngamiland and Chobe Districts were expanded and also duplicated in Central District, the overall basket industry of Botswana could substantially grow. On the other hand, certain events could have a negative impact on the future of the basket industry, most importantly: a breakdown or reduction of the marketing structures now in place, discontinuation of the current cultivation trials, no further training opportunities, or an introduction of a far better economic activity in the basket areas.[3]

While empirical data over time are not available for the traditional beadwork crafts, production seemed to decrease during the period that Botswanacraft stopped buying in the remote areas of Ghanzi, Kgalagadi, and western Ngamiland in the early 1980s. A resurgence occurred in Ghanzi and northern Kgalagadi when a new assistance programme was established by the Danish Volunteer Service (DVS) and Ghanzi District Production Development Committee in the form of *Gantsicraft*. A similar increase in production and producer numbers was seen in western Ngamiland when the Ministry of Commerce and Industry supported the creation of !Kung San Works. Since the virtual collapse of !Kung San Works in the late 1980s, producers state that they no longer make beadwork items because there is no market channel for their products (Terry 1991). Although beadwork products, especially those made with ostrich eggshell beads, should remain popular my prediction for this product and the producers is not positive. To prevent the demise of this craft, several activities must occur during the next few years. Most importantly, solid plans must be developed to provide for a smooth transition of management to the Gantsicraft

3 Alternative income generating activities would be a plus to the basket-making villages and the non-producers and any development of better economic opportunities should be encouraged. If this scenario were to occur then basket production and the market would have to adjust to the new market forces.

project when DVS closes its programme in 1996. For western Ngamiland, unless some type of marketing programme is reinstated soon, producers will lose total confidence and interest in the handicraft industry. Skills will be lost permanently when old producers retire and ongoing training to the youth is not provided. Furthermore no organisation appears to be reordering glass beads from Czechoslovakia. With few glass beads in the country, little production can take place even with an active training and marketing programme.

Without a development and marketing programme for southern Kgalagadi District and Southern and Kweneng Districts the production of skin products appears to be on the decrease. Besides the lack of co-ordinated assistance, the 'green' movement's distaste for gameskin products, especially furs, has had a negative impact on the overseas market. Quality improvement training and development of a national and regional market would allow this craft to continue into the next century.

In Botswana today, there exists a natural resources programme with aims revolving around the high income wildlife utilisation activities of tourism, safari hunting, and marketing of animal products. A part of this programme is the recognition of possible employment opportunities from the development of crafts and processing skills. In theory the handicraft industry could be strengthened through this programme. In practice, general policy and everyday activities have not caught up with the concept. This does not hold well for the future, but the potential is still there.

While individual woodcarvers can probably be found throughout Botswana, approximately 240 woodcarvers are estimated to be actively working in the concentrated areas of Shashe, Serowe, Thamaga, and Etsha. The potential of the market appears mixed. Some consider that the woodcarvings from Zambia, Zimbabwe, and Kenya are better and cheaper, while others appreciate the uniqueness of Botswana carvings and prefer them to the hardwood, 'airport art' styles coming out of the other countries. Putting artistic tastes and preferences aside, the commercial woodcarving industry in Botswana is doomed to extinction unless three main issues are addressed: the re-introduction of a marketing structure, the training of interested young men and women (only 33 percent of the carvers are under 40 years old), and the replenishment of the appropriate trees within the vicinity of the carving villages.

Traditional hand-built pottery is almost non-existent in Botswana. Less than 40 potters are thought to be still producing in Southern and North East Districts. While the future prospect is dismal for this art, this trend could be reversed with a development and promotion programme. As an example, in Chobe District one traditional potter has been encouraged to produce pots by the DVS craft advisor. Her beautiful pots are now in great demand, command about P16 each, and earn her an annual income of P1 600.

It is very hard to predict what the state of the contemporary craft industry (i.e., pottery, leatherwork, loom weaving, printed textiles, and jewellry) will be in the 21st Century. During the two and a half decades since independence at least 50 production units creating contemporary craft items were introduced by foreign advisors. However since 1990, five units have closed down, while only six new units have started-up. As with the traditional crafts, unless marketing assistance, training, and the encouragement of new enterprises continues, the contemporary craft industry will stagnate, and possibly decline.

Conclusion

By using specific information gathered on the basket industry and suppositions from the rest of the craft industry, it can be said with a great degree of certainty that when assistance is provided to craft producers in the form of training (technical and business skills) and marketing assistance and promotion, the number of producers entering the field and the number of objects produced will increase.[4] In areas where this support is limited or non-existent, production decreases and in some places comes to a complete halt. Thus it can be predicted to a fair degree of certainty that the craft industry will plod along at its current rate if the support structures remain as they do today. Any further reduction in support over the next ten years will negate many of the successes and halt further progress. Alternatively if a co-ordinated, active support system is put into place during the next few years, the existence of a vibrant craft industry into the next century could be assured.

4 In a feasibility study for the planning of a national handicraft development association conducted by Botswanacraft in 1989, it was estimated that an additional 2 000 producers could be added to the ranks of craft producers if training and marketing assistance were organised on a national level.

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